

DEP



CITIZENS' BULLETIN

The first two issues of the second volume of the Citizens' Bulletin are devoted to what has become the most critical, and most convoluted, environmental issue of them all - land use.

Land use encompasses all the problems traditionally thought of as "environmental" such as pollution, wetlands and wildlife management, energy and natural resource shortages. Land use also encompasses population, growth and transportation patterns, development siting, zoning, exclusionary or otherwise, and the property tax-education system funding procedures.

In fact, one may say, land use encompasses everything done on the land, affecting or affected by the land - which is, in essence, just about everything. Land use practices are therefore much more than siting of a home or saving of a marsh - good land use practices mean planning for the quality of life for every living thing.

Such an all-encompassing topic as quality of life through land use planning cannot, of course, adequately be covered in two volumes of a newsletter, or even

twenty. Nor will any such attempt to describe such a dynamic subject remain long current. This issue, and the one to come, are rather intended to provide the briefest and broadest outline of programs and issues in Connecticut which presently affect land use. These "lay of the land" newsletters will merely serve as a rough map, gathering in one place the programs and issues which affect land use in our state.

The articles are uneven, with their length not necessarily a reflection of importance of subject, and may raise as many questions as they answer - which they are intended to do. Many of the questions will be answered by referring to the sources listed at the end of each article.

Before forging the new, one must know the old from which it will spring. This issue therefore attempts to describe the present status of use of land, not project recommendations for a desirable end. That end - a good land use policy which will enhance the quality of life of every person in Connecticut - is up to each and every citizen of the state.

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plan of conservation and development

Connecticut is ahead of many states in having a comprehensive land use plan. The plan does not have the force of law; it would need to be adopted by the legislature for this. But by Executive Order No. 28 signed by Governor Meskill on September 27, 1974, it has become the official policy for the Connecticut Executive branch in matters relating to land and water resource conservation and development, in intra as well as inter state matters.

Guidelines for its use in state agency program development, administration and review of applications for state and federal grants-in-aid will be established by the Planning and Budgeting Division of the Department of Finance and Control. State agencies and bodies now must review their budget programs, plans and legislation to identify ways the objectives of the plan can be furthered, and regional planning agencies and municipal agencies are encouraged to do the same.

The State Departments of Finance and Control, Agriculture, Commerce, Community Affairs, Environmental Protection, Health and Transportation are to recommend administrative and legislative measures to the Governor in

light of the Plan.

The following is edited from the plan.

BACKGROUND OF THE PLAN

....Connecticut has become the fourth most densely populated state with over 3 million people living within its 5,000 square miles. Consequently, the opportunities for competition and conflicts in the use of the land and water resources are greatly magnified. While the gross population density of the state has increased, the distribution of new residences, businesses and industries has taken place at lower net densities than in the past. Industries have sought stretched-out sides for one story buildings and ample parking; shopping centers have developed on hitherto rural land. Families have been building homes on larger lots. Continued development at these relatively low densities would eventually reduce Connecticut's hills and valleys to a vast suburbia--destroying both the natural environment and urban life--and creating a dispersed society impractical to serve. As growth pressures continue to build within our state and from our neighboring states, it is increasingly necessary for Connecticut to guide overall growth so that high standards for environmental quality and public services can be maintained.

In response to these conditions there has developed a recognition of the need for a more comprehensive and coordinated approach to planning for proper use of our natural resource base and the exploration of improved ways to guide development consistent with public goals and needs.

Connecticut has taken steps in response to this need through the establishment of closely related, technical programs for land use planning and water resources planning. The statewide land use effort, which emanates from the Planning Section, Planning and Budgeting Division of the Department of Finance and Control (formerly the Office of State Planning), was built upon a foundation of extensive municipal and regional work in land use planning as well as statewide work of the 1960's which was conducted under the Connecticut Interregional Planning Program. Water resources work is done as part of the Connecticut Water Resources Planning



Program, which was established by the Clean Water Act of 1967. The Program is conducted as a cooperative interagency staff effort by the Department of Environmental Protection, the Department of Health and the Department of Finance and Control. Due to the interrelatedness of land use and water resources, it was decided in 1972 to combine the work of both programs and publish one document. The product of that unified effort was The Proposed Plan of Conservation and Development for Connecticut, issued January 1973.

PLAN HIGHLIGHTS

The plan of Conservation and Development is a set of written and mapped policies and recommendations....Of major importance is the fact that it identifies a larger role for state government in decisions relating to the use of Connecticut land and water resources. As now structured, the decision-making process places the basic decision of appropriate land use in the jurisdiction of the planning and zoning commissions and boards of appeals of local governments, even though most basic public services and facilities are assisted either directly or indirectly by state and federal governments. These local and state programs are all too often seriously limited in their effectiveness by the lack of close coordination and agreement on overall objectives.

To properly represent the interests of the entire state...and adequately assure the participation of all affected parties, the plan calls for a partnership of state and local government and other affected interests in land use and water planning and implementation based upon a general framework of statewide land and water resource policy. Within this general framework, local and regional planning agencies would set forth the specifics of desirable land use form and the ultimate level and appropriate staging of future development.

The plan of Conservation and Development contains maps which depict either land and water recommendations of a geographic nature, or general information related to conservation and development. The Land Use Policy map divides Connecticut into three land use categories designed to guide the use of land.

They are areas Suitable for Urban Development, areas for Permanent Open Space, and areas for Limited Development.

Approximately one-quarter of the state

is considered Suitable for Urban Development. These lands are considered suitable because they now have--or are expected to have--public water, sewers and access to major transportation arteries, and are on generally good land. They are also part of or close to existing urban centers. The category Suitable for Urban Development also avoids major water supply watersheds and other areas recommended as permanent open space.

The plan of Conservation and Development identifies another one-fourth of the state as appropriate for Permanent Open Space. Contained within this category are existing open space and recreation areas (public parks and forests, private natural preserves and utility lands), major coastal and inland wetlands, major sites identified by state government and regional planning agencies for recreation, existing and potential water supply reservoir sites and ground water supplies, ridges, mountains and major flood plains.

The remainder of Connecticut has been categorized as Limited Development. Included are major agricultural lands, lands which are poorly suited for urban development, and lands which make up the watersheds excluding water supply reservoir sites.

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The Water Use Policy map graphically depicts policies related to water resource use. Shown are the proposed uses of key streams, water bodies and watersheds in the state, as well as the identification of high priority aquifers. The proposed water uses are divided into two major categories: Water Supply, and Water Based Recreation.

Since the Proposed Plan was released in early 1973, an extensive series of meetings has been held throughout Connecticut to present the recommendations and to receive comments, and criticism the proposed plan was revised in the light of these comments.

POLICIES

The following policies are enumerated in the Plan of Conservation and Development. Each of the numbered policies has specific parts; newsletter space did not allow them to be reprinted. For the complete policies, send for the plan, address below.

OVERALL PLAN POLICY

State government must take a leadership role in establishing a land and water resource decision-making structure which will adequately assure the participation of all affected parties.

Policy No. 1

Establish and effectively manage sufficient water supply sources to meet future water supply needs.

- 1a. The future public supply needs of the state should be met through those water supply reservoirs, diversions and high priority underground sources (aquifers) depicted on the Water Use Policy map.
- 1b. As a general principle, water supply should be obtained from groundwater resources before resorting to the creation of new impoundments. Until the water yields obtainable from the aquifers identified on the Water Use Policy map and the Conservation Areas map are verified, protective measures should be instituted to ensure the integrity of these sources.
- 1c. The state should develop mechanisms to protect and preserve the identified water supply sites. Although

future studies may show some of these sites to be less desirable than others, all should be protected at present.

- 1d. The watersheds tributary to the water supply reservoirs delineated on the Water Use Policy map should be managed to ensure the quality of the impounded waters for their intended purposes.

- 1e. Continue the policy established by law of not permitting waste discharges (treated or untreated) into streams tributary to public water supplies, and not constructing water supply facilities which would be fed by streams receiving such wastes.

- 1f. Limit the discharge of treated sanitary and industrial wastes

to those streams receiving treated effluent under Connecticut's Clean Water Program identified on the Water Use Policy map.

- 1g. Lands which are presently maintained in an open state necessary for the protection of public water supply should be continued to be maintained in that state.
- 1h. Actively promote water conservation practices and programs so as to minimize the social, environmental and economic costs of new water supply development.

Policy No. 2

Provide a wide variety of high quality outdoor recreational opportunities to all citizens with highest priority given to the needs of Connecticut's urban areas.

- 2a. In the purchase and development of recreation areas, give top priority to sites within and close to areas identified as Suitable for Urban Development on the Land Use Policy map.
- 2b. In the building of new and the rebuilding of old urban areas, ensure consideration of the potential use of rivers for recreational and aesthetic purposes.
- 2c. Expand and modernize camping facilities with priority given to locations near multi-purpose intensive recreation centers.



Areas for Urban Development
From the Plan of C and D

2d. Protect existing recreational trails and develop new ones.

2e. Take advantage of every opportunity to increase the amount of shoreline land available to the public for recreational use.

2f. High priority should be given to increasing opportunities for public access to saltwater swimming through consideration of expansion of existing facilities and development of new facilities.

2g. For water-based recreation expenditures, the state should give first priority to the acquisition and/or construction of major public saltwater beaches, inland water-based recreation sites, and the improvement of existing water recreational areas, identified on the Water Use Policy map.

2h. In watersheds which drain into recreational water bodies, residential, commercial or industrial development should be limited to that which is fully compatible with clean water-based recreation.

2i. Under certain conditions, swimming should be allowed in storage reservoirs, but not in distribution reservoirs.

2j. The practice of discouraging the construction of new impoundments solely to satisfy a state-oriented recreation demand should be continued. However, when impoundments are being created for other purposes, consideration should be given to the provision of recreation.

2k. Actively pursue the acquisition of access rights for water-based recreation on those recreation streams, recreation impoundments and for those recreation sites identified on the Water Use Policy map. In addition, attempt to provide at least one state access point for boats in each town bordering Long Island Sound.

Policy No. 3

Protect the scenic, historic and natural resources of Connecticut from

premature, uncontrolled or incompatible development.

3a. Preserve the heritage of Connecticut through a strengthened program of historic preservation and careful development.

3b. Support the preservation of key agricultural areas of the state in accordance with the Land Use Policy map.

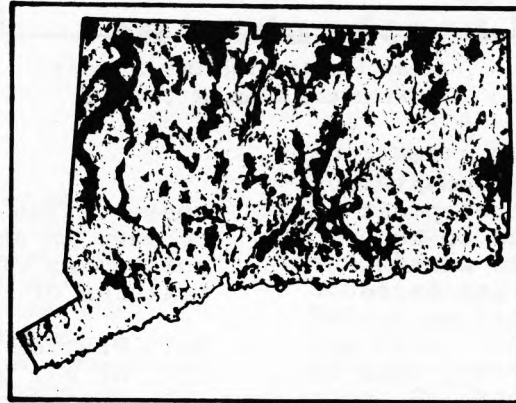
3c. Encourage scientific forest management in Connecticut in accordance with the Land Use Policy map.

3d. Give full support to the conservation of the natural beauty and historic character of the Connecticut, Housatonic and Thames River Valleys.

3e. Ensure that consideration is given to the utilization of sand and gravel deposit locations for groundwater supply and mineral extraction purposes before decisions precluding such uses are made.

3f. Protect the natural values of Connecticut's mountains through preservation of scenic ridges.

3g. Encourage the utilization of soils and geologic surveys, other natural resource information and stream belt planning techniques in determining areas suitable for various land uses.



Existing and Proposed Open Space Areas
From the Plan of C and D

Policy No. 4

Protect rivers and lakeshores, flood plains and the Long Island Sound coastline from environmentally destructive alterations and development.

4a. Establish regulations to control the flow of water in streams affected by impoundments, diversions or well fields.

4b. In the next stage of the water pollution abatement program, priority should be given to the elimination of raw discharges from combined storm and sanitary sewer systems.

4c. Ensure that environmental implications are given full consideration in decisions relating to the filling of, or construction over or adjacent to Long Island Sound.

- 4d. Ensure that the people of Connecticut are adequately protected from flood damage.
- 4e. Utilize erosion and sediment control measures for the purposes of conserving resources and reducing pollution.

Policy No. 5

Direct urban development to those areas identified as Suitable for Urban Development, preferably close to existing urban, commercial and employment centers.

- 5a. Utilize the timing and placement of water and sewer lines to direct urban growth and promote high quality development.
- 5b. Concentrate state and federal aid for major urban services in areas identified as Suitable for Urban Development.
- 5c. Encourage the location and relocation of business and industry within areas identified as Suitable for Urban Development.
- 5d. Give high priority to the revitalization of the physical, social and economic structure of the central cities.
- 5e. To prevent haphazard urban development in rural areas, require development in areas shown as Limited Development on the Land Use Policy map to be of such use and density as to ensure that on-lot water supply and waste disposal systems will function indefinitely.

Policy No. 6

Encourage urban development to be at sufficient densities for the economic provision of services.

- 6a. Encourage the provision of both public sewer and water service in all new development whether either service will be needed.
- 6b. Encourage residential development in those areas identified as Suitable for Urban Development to be at minimum densities of two dwelling units per acre of land.

- 6c. Encourage the utilization of a variety of residential types of development, including mobile homes, condominiums, multi-family homes and small lot single family homes in order to meet Connecticut's housing needs.

Policy No. 7

Promote staged, contiguous development within areas Suitable for Urban Development.

- 7a. Stage the development of raw land and the construction of public utilities in such a manner as to discourage sprawl.
- 7b. Encourage larger scale, innovative private development projects which provide opportunity for greater variety and choice of life-style and economy in the provision of public services.
- 7c. Urban development should be staged in accordance with the criteria and priorities reflected in the Urban Development Opportunities and Limitations map.
- 7d. Certification of availability of sewer and water service should be obtained prior to approval of any new construction in sewer and water service areas.



Areas for Limited Development
From the Plan of C and D

Policy No. 8

Encourage decisions relating to major conservation and development actions to be made in accordance with the locational guide maps of the Plan, and with the key policies of conservation and development.

- 8a. Provide for a comprehensive review of all state policies and/or programs that impact state land use policy.
- 8b. Ensure that emphasis of state programs fosters Plan policies and that such emphasis is reflected in the capital and operating portions of the State Budget.
- 8c. Ensure that program planning efforts of state and other agencies are coordinated and result in program plans which are generally consistent with the Plan of Conservation and Development.
- 8d. Establish a mechanism for reviewing proposals on new communities,

regional shopping centers and other types of large scale development which will ensure that local, regional and statewide concerns are addressed.

Policy No. 9

Encourage the use of the Plan of Conservation and Development as a guide in the review of projects and proposals and in assessing the need for amended or new legislation.

- 9a. Encourage state, regional and other agencies to use the Plan of Conservation and Development as a primary guideline in reviewing all applications for those federal aid programs for which review is required.
- 9b. Encourage regional planning agencies to review regional and local plans of development, zoning regulations, subdivision regulations, and sewer and water plans in relation to the Plan of Conservation and Development.
- 9c. Undertake a review of existing legislative authority for conservation, development and related programs and activities in order to assess the need for new or amended legislation.

Encourage local participation in conservation and development activities.

- 10a. Encourage towns to make broader use of existing development controls and enable towns to adopt new and strengthened development tools.
 - 10b. Strive to reform the tax structure so as to reduce the financial pressures on towns and cities which contribute to deteriorating structures, urban sprawl, inability to absorb low-income housing, and diseconomies of scale in the provision of public services.
 - 10c. Provide expanded state, technical and financial assistance to local government for conservation and development needs.
- The above edited from the Plan of Conservation and Development for Connecticut.

Copies of the newly adopted Plan of Conservation and Development for Connecticut from Department of Finance and Control, Planning and Budgeting Division, 340 Capitol Avenue, Hartford 06115.

agricultural lands

an endangered heritage

The future of agriculture is of paramount importance to the citizens of this state and nation in view of possible future food shortages....farmland still occupies nearly 18 per cent of the land area of the state.... Connecticut ranks first in New England in income from agricultural products on the basis of geographic size...agricultural land represents an integral part of Connecticut culture and aesthetic quality and is important to the preservation of our state's distinctive environment.

-- From Governor Meskill's Executive order Order Number 26.

In little more than a decade, Connecticut has lost half of its farms. In 1945, 22,000 were operating in the state; in 1959, 8,266; in 1972, only 4,500. Some of the loss is attributable to mergers of small farms into larger, more efficient agricultural complexes. But the majority of the farms lost are farms

no longer, but land used for other purposes.

For food and open space value, contributions to the state economy, atmosphere and quality of life, farmland is invaluable. Yet it is disappearing at an ever-increasing rate. Concern over its disappearance is also increasing. In April of this year, Governor Meskill issued Executive Order Number 26. Citing the value of agricultural lands in some of the phrases quoted above, the order created the Governor's Task Force for the Preservation of Agricultural Land.

The task force is charged with

- identifying factors leading to recent loss of prime agricultural land
- inventorying the state's agricultural land
- recommending programs to curb the attrition rate
- recommending steps to coordinate

LAND VALUES AND TAXES

- state programs with current and anticipated federal programs
- recommending an overall land use policy designed to maintain agriculture as an important environmental factor.

A preliminary report to the Governor is due December, 1974, and a final report in April, 1975.

To produce the preliminary report, the Task Force divided itself into three committees.

The Inventory Committee is working to obtain maps of the 169 towns and to identify the Class 1, 2 and 3 arable lands (soil classes as specified by the Soil Conservation Service; these three classes are most suited to agriculture). Committee members are attempting to identify the land best suited to farming.

In several selected towns, county agents of the Agricultural Extension Service have undertaken a survey of land use and of farmer practices and attitudes in regard to such items as type of crop, amount of land classified under P.A. 490, and amount of reclaimable land not now being tilled. This information will be useful as a base for determining general patterns in the state.

The Social, Political and Economic Committee is researching the past and present forces that have and continue to influence the farmer and his business. Areas studied include education, credit, taxes, transportation, labor, agribusiness, services, and the role of cooperatives and general farm organizations.

The Policy Committee is using the data produced by the other two committees in preparation for a preliminary proposal.

From on-site investigations, study of programs in other states, and a large reservoir of in-state expertise, the task force members have identified specific areas they are investigating for the December preliminary report.

First to be considered were the problems the farmer faces which are causing him to sell his land, often to be put into uses other than agriculture.

Problem number one is the escalating value of land. As the population grows, and as trends toward low density land use escalate, more and more land is developed, and the remaining land area shrinks in size and increases in price. Open land such as farmland is eyed as a good site



for new housing, shopping areas or industrial sites -- usually for some of the same reasons the land makes good agricultural land: it is flat, usually well-drained, and presents few problems for builders. As the potential development uses of the open land multiply, its market value increases; as its market value increases, so do taxes on the property and pressure to sell.

Many of the increased taxes are a real problem for farmers to meet, especially given the fluctuating economies of the food market, the increasing prices the farmer must pay for the fertilizer, pesticides, animal feed and other necessities he must have to farm.

The economic situation is complicated by the need of the municipality for an ever-increasing tax base to pay its escalating costs, and the reliance on the property tax to provide much of that base. New development can provide some of the new tax base, although increasing evidence shows that a housing development can cost a town more in services than it gains in property taxes. (This is not a subject germane to the discussion here, but an interesting topic. For further discussion see Robert Lemire's "Comparative Economics of Conservation versus Development", available from DEP, Room 110).

Property taxes are not the only (or even the major) tax burden on the farmer. federal and state inheritance and gift taxes can be even more crushing. Time

and again, a farmer's child has been forced to sell the family farm after parents' deaths--just to pay the inheritance taxes. The state inheritance tax usually amounts to about 30% of the Federal tax, which can be very high.

Gift taxes can be equally harsh, and preclude a simple passing of the family farm from parent to child. Careful, often expensive planning before the parents' deaths is necessary to avoid the crippling taxes. All too often, it is not done before it is too late.

The combination of any of these taxes is enough to force many farms out of existence.

P.A. 490

Connecticut first dealt with the problem of taxation and vanishing agricultural land in 1963, when the General Assembly passed P.A. 490, An Act Concerning the Taxation and Preservation of Farm, Forest, and Open Space Land. P.A. 490 states its purpose to be to prevent the forced conversion of farm, forest and open space land to more intensive uses as the result of economic pressures caused by the assessment at values incompatible with preservation of such land.

Under 490, any owner of farm, open space land, or 25 or more acres of forest land, may apply to his local tax assessor for a property tax assessment compatible with the use of that land -- an assessment which is generally lower than that applied to developed land.

Open space land, to qualify for such use, must be so designated on a town plan. Farmland is designated as such upon approval of an application to the local assessor, and forest land of over 25 acres upon certification by the state forester. In each case, the local assessors determine the rate at which the property will be taxed under 490 (as long as, in the case of forest land, it is uniform throughout the town).

The 1963 act lacked a tax recapture provision which would recover some of the tax savings realized by those who held land at reduced rates until they were ready to sell. A 1972 bill provided that land classified under P.A. 490 since passage of the '72 amendment be assessed a tax of 10% of the sales price if the land is sold during the first year of acquisition or classification (whichever is earlier), 9% if sold during the second year, and so on until the eleventh year, when no conveyance tax is imposed. (Land held by the owner for longer than ten years prior to classification under 490 is exempt from the recapture provision).

In theory, tax abatement for agricultural land goes a long way to preserve such land for farming. While 490 does help the farmer retain his land, it does not provide the entire answer to the farmer's tax dilemma.

Values of certain land are escalating at such a rate that sale profits can more than compensate for the conveyance penalty. Local assessors vary widely in their application of tax abatement schedules (a situation that is expected to be eased when the State Board of Assessment Advisors created by the 1974 General Assembly becomes active). The act itself, no matter how widely applied, does not provide a land preservation and use policy based on the natural characteristics of the land. Nowhere are land use guidelines more than broadly stated, nor must even these be followed. 490 was not intended to be a broad land use planning or open space preservation tool per se -- but many now recognize that such a tool is needed.

Clearly, a step beyond 490 should be taken to create an effective tool in preservation of agricultural land.

POTENTIAL SOLUTIONS

The task force is investigating possible solutions to the problem of land value and taxes. The concepts are not mutually exclusive, and the best solution may be a judicious combination of some or all of them.

Three solutions -- agricultural districting, transfer of development rights, and purchase leaseback -- are at present relatively new and untried, though a few states have plans for preserving their disappearing agricultural lands by one or more of these means. The following brief descriptions of programs in other states should serve to outline the kinds of ideas the task force is investigating.

California

California took steps to preserve its vanishing lands in 1965 under the Open Spaces, or Williamson, Act. The plan is much broader in scope than 490, and it introduced the idea of agricultural districting.

Local governments in California, to participate in the program, must specify areas of land as "agricultural preserves". Agricultural lands are defined to include land devoted to recreation and wildlife, as well as other undeveloped areas. The lands so designated must be in accordance with some long-range municipal or regional development plan, thus opening the door for the agricultural preservation program to be the basis of a comprehensive land

planning program. The local governments, however, may draw their plan as they wish, thus leaving the land planning decision up to them.

Once the municipality has designated its agricultural preserves and drawn up its local plans (or made sure the preserves are compatible with an existing plan), the property holders of the designated lands are eligible to contract with the local government for use value assessments. In exchange for the use value assessment, they surrender their right to develop the land in certain ways for a ten-year period. The land is thus protected for agricultural use, while the owner is compensated for his voluntary relinquishment of development potential.

Long-term preservation of the land is encouraged by an automatic ten-year renewal of the use assessment contract unless definite steps are taken to change it. (In Connecticut at present, annual application to the local assessor must be made for 490 use value assessments.)

California also requires a nine-year forewarning of contract non-renewal, which assures adequate time for reflection and planning, and an increasing scale of land taxation in each of the nine years before the contract is to be terminated. Cancellation of a contract is possible, but penalized (unless cancellation is in the public interest) and complicated.

California is now considering a bill which would freeze at present use all prime or potentially prime agricultural areas in the state, while a state food emergency plan is prepared (expected to be two years).

The state of California is an active partner to this plan -- it pays base fees to local governments to cover program administrative costs, and compensates cities, counties and school districts for some identifiable portion of local revenues lost under the use value taxation.

New Jersey

The New Jersey plan has just this year been proposed to its state legislature. Under this proposal, New Jersey would require each of its municipalities to designate an Agricultural Open Space Preserve composed of 70% of its prime farmland. The local government would designate the areas consistent with state guidelines. This preserve would become part of the local master plan, and should reflect local open space, as well as agricultural needs.

Landowners within the preserved areas could then sell the development rights to

their land to the state administering agency or local government, at a rate which would be the difference between the market value and the use value of the land. If the landowner wished to wait to sell his development rights, the eventual sale would reflect any increased value of the land.

Financing for the plan would come from a 4 mill tax on all real estate transfers in the state; the plan would be administered by a Board of Directors appointed by the Governor and approved by the Senate and selected ex-officio government members. The professional staff would be drawn from the Department of Agriculture. The plan, according to the policy guidelines expressed in the document (The New Jersey Blueprint Plan for Agriculture), should be devised to alleviate the immediate impact that inheritance and estate taxes have on land use, ownership and control.

New York State

New York's program is nearly three years old. It enables farmers to initiate agricultural districts of 500 or more contiguous acres. Such a district exists for eight years, and it may be renewed if it still meets state requirements for an agricultural district.

A ceiling on tax assessment of agricultural lands is set, based on the average value per acre of all agricultural land in the district eligible for special assessment. Taxes on farm land in the program which exceed the ceiling are deferred unless the land use changes, whereupon the deferred taxes for the past five years must be paid.

The state reimburses local governments for one-half the revenues lost through the reduced taxation, and the law (The Agriculture and Markets Act of 1971, amended in 1973) prevents local governments from restricting farming practices beyond the requirements of health and safety. The law also permits restriction of public agencies from proposing non-farm development such as sewers or water supply in a district, and the power of public service districts to tax farmland for services not needed by farmers can also be restricted.

Suffolk County, New York

The Suffolk County, New York, legislature has authorized \$60 million to purchase development rights of agricultural land -- or to purchase the land itself if the owner wishes to leave the farming business. The purchased farm would then be leased back to a new farmer -- perhaps

a young farmer who might not have the capital to begin a farm alone, and from scratch. Suffolk County is at present the only area to include "purchase leaseback" as part of its agricultural plan.

Maryland

Maryland's law allows use value assessment of agricultural, planned development unit, country club and forest land.

Land assessed as agricultural must be used as such for three years after it was last so taxed, or the owner pays twice the difference between the use and the full value assessment.

Land to be assessed and taxed as planned development land must be zoned for development, approved in the master plan, and have a comprehensive site development plan including land use, transportation, water, sewers, industry, jobs, recreation and civic elements.

Other Problems

The task force is concentrating on the land value escalation and tax problems which force most farmers out of business. But there are other impediments to farming success in an increasingly urban society. Briefly, these are:

- Escalating costs. Profits are hard to come by when machinery, labor, fertilizer and feed prices escalate. Although grocery prices are increasing, the farmer's share is disproportionate.
- The vast capital needed to start farming. Estimates for the amount of initial capital needed range between a quarter to a half million dollars -- far too high for a beginning farmer who cannot count on immediate profits to repay loans.
- Declining interest in entering farming among young people. Hopefully, this trend is slowing slightly, for enrollment at UConn's school of agriculture is increasing -- up 50% between 1966 and 1972, and 27% in 1972 alone.
- Availability of labor. In a society increasingly urban, a large percentage of young people choose business and city over farming and country; and labor is not as available for farm chores as it once was.



- "Government interference," as many farmers call it, whereby government policies for price setting, farm supports, import standards, transportation rates and employee standards such as those under the Occupational Safety and Health Act (OSHA) directly affect the farmers' practices. Environmental protection laws may also change the farmers' traditional practices. Water pollution laws address "non-point" pollution sources such as runoff from feedlots, fertilizers or pesticides; pesticide laws circumscribe use of some of the traditional and cheapest pesticides due to their long-term environmental damage; and some air pollution and water resources laws, necessary for environmental quality, may add to the farmers' burden. Connecticut has been very aware of these possible problems and carefully exempted farming from such regulations as its inland wetlands and open burning laws, and DEP consults the farmers on its pesticide policies.
- The suburbanization of American society. While farms are prized for open space value and the "character" they give to the landscape, city folk and suburbanites moving even farther away from the city find themselves unused to farms as neighbors. Because these new neighbors have not had farming knowledge as part of their experience, they find agricultural activities such as manure spreading or machinery noise objectionable, and protest vigorously or pass local ordinances which interfere still further with the farmer's procedures. Incidents of trespass and vandalism generally escalate as well.
- A viable agribusiness, including the network of markets, supplies, and transportation necessary to the farmer. Farming in Connecticut is big business for the state. In New England, Connecticut ranks first in peach and pear production, second in dairy products, eggs and corn, and third in apples. Nearly 40 percent of the milk consumed in Connecticut is produced here, as is approximately 35 percent of the broiler meat, 30 percent of the fresh vegetables, 90 percent of the eggs, 95 percent of the poultry meat, and 100 percent of the apples. But, maintaining a successful agribusiness amid labor and transportation problems and market fluctuations is not an easy task in a society that is turning

more and more of its resources to production of industrial products.

Some towns are recognizing a loss of farmland as a local as well as state-wide problem -- Glastonbury, for instance, has set up its own local task force to study the situation. The Colchester Conservation Commission has also made it a special study.

The Connecticut Farm Bureau is also studying the problem of vanishing agricultural lands; the Bureau has formed a land use study group to examine the issue. (This private organization has as members farmers and others interested in agriculture.)

But in spite of the many problems contributing to disappearance of agricultural lands, the situation is far from discouraging. Agriculture is still a vital and viable part of the state's life and economy. Connecticut government is aware of the special problems of its farming citizens and of the unique values to all citizens inherent in the farmers' efforts and the very existence of their land.

In the task force efforts, the state is addressing solutions in a comprehensive, integrated fashion, and the

task force report is eagerly awaited. Watch the Bulletin for the details.

For further reference....

Agriculture in Connecticut; white paper from the Connecticut Conservation Association, describing agriculture in the state, its problems, and some solutions. Free, in single copies, or in bulk, from CCA, Bridgewater, Ct. 06752. The editor gratefully acknowledges the paper as a source for much of the information in this article. Acknowledgment also to "A Summary of State Land Use Controls," July 1974, Land Use Planning Reports; and Management and Control of Growth, an excellent reference on growth, no-growth and development options in the light of economic, population, housing, legal and development tools. From the Urban Land Institute, 1200 18th St., N.W. Washington, D. C. 20036. New Jersey's plan is outlined in the Report of the Blueprint Commission on the Future of New Jersey Agriculture, available from the New Jersey Department of Agriculture.

water company lands

opportunity for the future

Public utility companies - those which supply water, power and transportation to Connecticut residents - own large amounts of land. Water companies need land for protection of the quality of water they supply and for possible sites of future reservoirs. Power companies need land upon which to build power generating stations and under or over which to run power transmission lines. Transportation corridors consume vast amounts of land - some in constant use, others in abandoned rights of way which could be used for public open space purposes.

Energy and transportation impacts on land are described in separate articles -- water company lands below.

It is estimated (by Edward Williams in the excellent Forest and Park Associa-

tion presentation cited at the end of the article) that water utilities own approximately 130,000 acres of land, some adjacent to water in their custody, others non-watershed land, or land far from any major water body. Obviously, this land is highly attractive, as water tends to attract people for aesthetic and recreational reasons. Also, as land in its natural state is developed at an ever-increasing rate, the utility owned lands become an increasingly large percentage of the state's undeveloped land.

It is estimated that a sizeable percentage of these water company owned lands could be sold. The water companies consider this acreage excess to their present operation purposes, though there is some debate on the issue. The lands take on added significance when it is realized that a large portion of these

areas are in the state's "urban corridor" stretching from Stamford, through Norwalk, Bridgeport, New Haven, north to Hartford, and up to Springfield. Open lands in this highly developed area are particularly precious to the urban dwellers without easy access to Connecticut's many beautiful parks and forests. Two companies own the bulk of the land in the state's urbanized corridor -- The Bridgeport Hydraulic and The New Haven Water Companies, and a third organization owns additional acreage in the populated corridor.

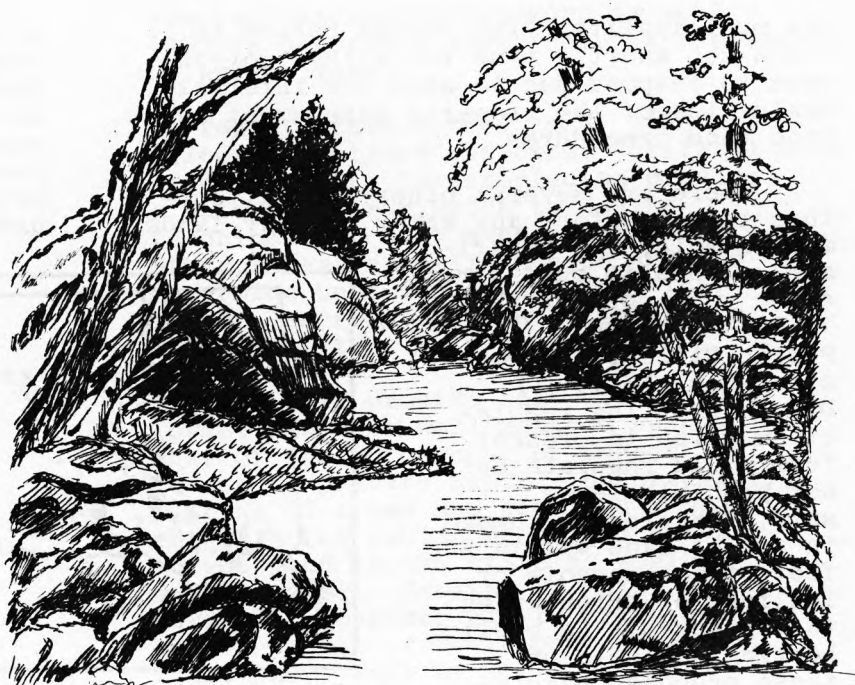
This water company land has become an issue of particular interest in Connecticut, as several of the utilities have announced plans or intentions of putting some of that land up for sale.

The land being considered for sale was originally acquired for protection of quality of the drinking water supply. Now, with the passage of new, stricter water pollution laws which require increased numbers of water quality treatment facilities to meet water quality standards, much of this land is not, according to the water companies, needed to filter, purify and protect the water supply. Other land need not be owned by the utilities as long as the sale of the land is accompanied by restrictions on use which will insure water supply protection by the new owner.

Utilities are further motivated to sell their lands by its rapidly increasing value, and the consequent escalation of property taxes. While some public utilities are not assessed full market value on their land, since they qualify for P.A. 490 use assessment (see agriculture article for 490 explanation), all pay some amount of property taxes -- and the dollars paid are increasing with the land values.

Another recent law permits recreational activities, such as fishing and hiking on water storage reservoir and lands. This, the utilities feel, puts pressure on them to provide such recreation adding to their regulation problems as well as administrative costs. (Some companies have allowed carefully controlled recreation in the past, and the industry as a whole is cautiously and voluntarily investigating the issue.)

Since water companies feel some of their lands formerly needed for water quality protection are now able to be sold, and the owners are feeling pressures



to sell, the obvious problem arises -- should this highly desirable, attractive and valuable land, which was acquired for what would now be considered a fairly low price, under the name of a public service and with the threat of condemnation proceedings (which water utility companies may exercise) be sold as any other piece of land, on the open market, to the highest bidder and for prices in some cases 50 percent higher than the original purchase price?

Or does the public utility have a public responsibility; do the municipalities and the state have a higher public right to have a say in the disposal of this valuable land, the disposition of which could alter for better or worse a significant portion of the pattern of land use and the character of the state?

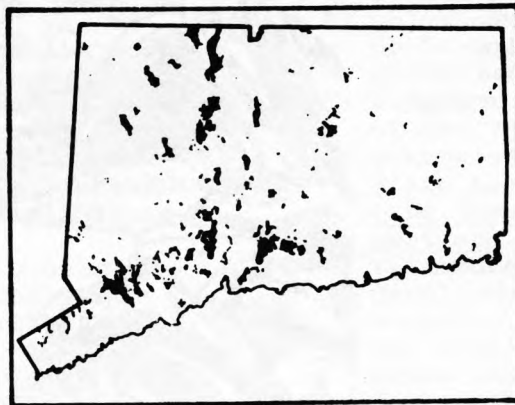
All parties have opinions on the matter, are studying the issue and debating the problem -- occasionally hotly. The Plan of Conservation and Development addresses the issue by urging increased recreation on water storage reservoirs and related lands. Former DEP Commissioner Dan W. Lufkin testified as far back as 1972 on the Department's position that recreation and sale of water company land not be allowed until its environmental impact be studied, and that the municipality and/or the state be given the right of first refusal on the sale of any such lands -- this has become law, and P.A. 74-256 has been revised to give a 90-day response period to DEP and

the municipality. The 90-day period is often too short a time for either government to respond due to need for internal evaluation of the property assessment and bond fund procedures.

There are several other laws affecting this issue: Before any water company lands may be sold, the Department of Health must first give its consent (P.A. 74-303) and the Public Utilities Commission (Sec. 16-43-1). DOH is drafting regulations which in present form would regulate but not prohibit lease, sale, transfer or change in use of land within 250 feet of a reservoir or 100 feet of tributaries to a reservoir (a public hearing was held on these proposed regulations October 2, 1974). But a majority of the water company land lies outside these boundaries.

While a state policy has by no means yet crystallized, all parties are discussing the issue openly, and the fate of

a very valuable portion of Connecticut land hangs in the balance. Tools to resolve the issue fairly for Connecticut's citizens, water company rate payers and stockholders could include outright purchase of lands at current or original prices, purchase of development rights, use assessment taxation, or moratorium on the sale of any lands until a resolution is reached.



Water Company Lands 1970
From the Plan of C and D

For further information....The Spring 1974 issue of Connecticut Woodlands; quarterly publication of the Connecticut Forest and Park Association, P.O. Box 389, East Hartford, Ct. 06108.

Proposed regulations from the Health Department, 79 Elm Street, Hartford, Ct. 06115.

forests

our undermanaged lands

60% of Connecticut is covered by trees. 90% of these woodlands are privately owned. The rest -- 180,000 acres -- are managed by DEP.

This unique situation -- the fourth most densely populated state having such a high percentage of forest land -- is one of the prime reasons why Connecticut is considered such a desirable place to live. Trees give beauty, privacy, relaxation, coolness, help screen noise, provide oxygen and help purify the air of airborne contaminants.

Trees are also a useable commodity -- for such needs as housing, paper and fuel. Best of all, they are a renewable resource. Some natural resources can never be replaced, or will form only after thousands or millions of years. Trees can grow quickly, be easily managed and provide both necessary tools for man's life and necessary quality for his existence. There need be no dichotomy in such multiple use.

Forests can, and in fact must be

harvested periodically to maintain high growth rates and good healthy trees. Some cutting practices merely thin the stands, leaving the best trees for the future. Other harvest methods include small clear-cuttings to regenerate stands that are in poor condition or have reached maturity. And all of these harvest operations benefit wildlife which requires openings in the forest to survive. As with agricultural land, forested acreage can be very productive, with multiple benefits not found in other types of open space lands.

Because so much of the state is forested; because, in a sense, the modern forestry movement was born here; because the history of the state's forest land is a lesson in land use; and because so much of the state's forest land is privately owned and undermanaged, it is important to understand the history and concepts of forest management.

When old-world explorers reached Connecticut, it was one big hardwood and evergreen forest, excepting some areas

along the banks of rivers and shores. Within a century and a half nearly every bit of virgin forest had disappeared -- felled for homes and heat, ships and pegs for joints, and fuel for many growing industries.

By 1952, two-thirds of the state was reforested. But in the past twenty years, we have lost 5% of that two-thirds. This near-total annihilation, rebirth and present decline of forest land in the state was uncalculated, an unplanned result of land use practices which changed because of economic pressure.

When machinery became prevalent on farms, rocky hillsides unsuited to the new techniques were abandoned as farmland. People moved to cities or to the West, seeking new ways to live and farm. Untended farmland reverted to its former condition, leaving only tumbled stone walls and cellar holes in now-tall forests as testimony to their former use.

Connecticut began to take an active interest in forestry in 1866, when the State Board of Agriculture was formed, and Professor Brewer of Yale, a member, used his official position to inform people on every occasion of the importance of forestry. Most important for the nationwide forestry cause, he influenced a student, Gifford Pinchot, to go to France to study forestry -- and Pinchot of Connecticut became the first U.S. Forester and later the first chief of the U.S. Forest Service. He, in turn, influenced his close friend, Theodore Roosevelt, and the forest reserves the two men set up really began the conservation movement in the United States.

In Connecticut, an official State Forester position was established in 1901, and forest land was the first category of land to be specially valued for tax purposes according to its use. In 1913, the Forest Tax law gave private forest land owners tax abatements and delayed tax on timber until cut. In 1963, P.A. 490 expanded this use value assessment concept to include farm and open space land in the

special assessment category as well (490 is described more fully in the section on agriculture).

Today, state forest land, like agricultural, wetland and other "critical area" land, is being inventoried to provide a data base from which to devise technical forestry management plans. State foresters will then be able to determine best use of the land for timber, recreation, aesthetic and/or wildlife -- true multiple use.

This will provide that state owned forest lands be well-managed -- but what of the 90 percent of Connecticut forest in private hands? Unfortunately, cutting of trees has acquired a bad image in the public mind, and private forest land in the state is woefully undermanaged. Because of this, DEP foresters consider aid to private landowners as one of their most important functions. Each of DEP's regional headquarters is home base for state forestry personnel who work closely with private consulting foresters to provide technical advice and assistance to private woodland owners.

The Federal Government will also provide financial assistance

for good forest management. In 1950, the Cooperative Forest Management Act authorized money to allow state foresters to cooperate with the U.S. Forest Service in forest management assistance to private landowners, and through the 1973 Agriculture and Consumer Protection Act two federal cost-sharing programs are available to private forest landowners:

REAP - The Rural Environmental Assistance Program-provides cost sharing for forestry practices on private lands as well as resource conservation and fire prevention activities.

FIP - The Forestry Incentives Program-provides cost sharing for tree planting and timber stand improvement where potential for good growth is high. The landowner must have a forest management plan for his land to qualify -- additional assurance of sound land use practices. However, under this program, participation is limited to those practices that are specifically designed



to improve the supply of forest products.

The State also runs a State nursery, at Voluntown, which provides some 1.6 million tree and shrub seedlings each year for reforestation, shelterbelt and wildlife planting purposes, including DEP's popular "buffer bunch". These seedlings are available at cost.

The Forestry Unit has an active forest fire control program as well, providing technical advice and assistance, training programs and funding to the 450 volunteer fire departments in the State. The unit will also assist primary processes of trees -- that is loggers and sawmill operators.

Given the amount of Connecticut land forestry practices could affect, forestry management techniques should be of prime importance in the State.

Further information on REAP, FIP and forestry assistance is available from the State Forester's Office, DEP, Room 259, Telephone 566-5348.

See also "Forestry in Connecticut" by Edmund Vandermillen, from which much of the material in this article was taken. Available from DEP, Room 110.



tidal wetlands

Tidal wetlands are some of the most valuable lands in any coastal eco-system, and Connecticut, in its Long Island Sound area, has some 15,500 acres of such valuable land. Originally, there were 30,000 acres; nearly half of these were lost.

A large percentage of the tidal wetlands disappeared because they were valuable - prized for recreational and aesthetic reasons over and above the food and environmental values which are given equal importance today. Conversely, many others were dredged or filled because their value was not recognized; they were used as dumps or storage areas without regard for their important role in the eco-system.

As Connecticut's human population increased, the pressures on these fragile coastal resources mounted; tidal marshes and tidal waters were filled for housing and dredged for boat basins. People seeking recreation crowded the shrinking amount of publicly available beach acreage. This pressure is especially intense in Connecticut - and still continues. Of the long shoreline bordering Long Island Sound, fully 80% is privately owned. Competition for use of the remaining 20% is fierce and growing. Many towns charge their own residents parking or user fees for town beaches and assess out-of-towners higher fees

to discourage use. Hitherto unresolved questions are being hotly debated - do those who live on the coast have the right to discourage or exclude other state residents who do not? The Connecticut Civil Liberties Union has brought suit against Fairfield on this very question.

What solutions are there for the many problems surrounding use of this prime coastal land with all its essential ecological systems and human appeal?

In Connecticut, the approximately 14,500 acres of the state's original tidal marsh fell victim to poor land use activities which included unregulated dredging and filling.

Recognizing the immediate threat to the remaining wetlands the Connecticut Legislature passed P.A. 69-695, the Tidal Wetlands Act (Section 22a-28-35 of the General Statutes) which empowered DEP to inventory all tidal wetlands within the state and to designate those within which certain activities may not occur without a permit from the state. The department has nearly completed this program, and the maps indicating the boundaries of local designated tidal wetlands are on file with each town.

Unlike the largely municipally regulated inland wetland programs, the tidal wetlands within the state are

regulated exclusively by DEP. Activities regulated by this act include, but are not limited to, draining, dredging, excavation or removal of soil, mud, sand, gravel of any kind or rubbish from any wetland or the dumping, filling, or depositing of any soil, stones, sand, rubbish, and the erection of structures, driving of piles, or placing of obstructions whether or not changing the tidal ebb and flow. No regulated activity may be conducted upon any wetland without a permit, and any person proposing to conduct a regulated activity upon a regulated wetland must file an application for a permit with the DEP Commissioner.

According to the act, the Commissioner in granting a permit must consider the effect of the proposed work on public health and welfare, marine fisheries, shell-fisheries, wildlife, protection of life and property from flood, hurricane and other natural disasters and the general policies of the entire act.

Presently, DEP lacks the personnel to monitor every acre of designated tidal wetland in the state and citizens are urged to report suspected violations. More information on the tidal wetland program may be obtained by calling 566-7160.

The tidal wetlands regulation program was immediately tested in court, and the decisions handed down so far indicate that courts uphold the program as a constitutional use of the police power.

The first court test came in Rykar Industrial Corporation vs Joseph N. Gill et al (Gill being the former Commissioner of the Department of Agriculture and Natural Resources, then the responsible authority for the tidal wetlands.)

The second test came soon thereafter, in Brecciaroli vs Lufkin. Both were decided initially in favor of the state; both are under further litigation; Brecciaroli appealed, Rykar was remanded. Brecciaroli is a clearer test of the principles involved, and will reach the Supreme Court first, in the next few months.

Former Commissioner Lufkin had denied Brecciaroli's February 1972 application to fill 5.3 acres of designated wetland which the applicant owned in Guilford.

In appealing the decision, Brecciaroli alleged that the Commissioner's action was improper, arbitrary, unsupported by the record, an unreasonable exercise of police power, and amounted to a taking of his land without compensation contrary to the state and federal constitutions.

The Court of Common Pleas, after a significant discussion of public and pri-

vate property rights, disagreed, denying the appeal.

According to the Court, "It is axiomatic that all property is subject to the reasonable exercise of the police power...and that courts will not interfere with a legislative exercise of this power unless the act complained of serves no legitimate purpose or is clearly unreasonable, arbitrary, discriminatory or illegal.

"The legislation in establishing [the policy of protection for tidal wetlands] based on the power of the state to promote the public health and welfare, recognized that it must be balanced against the common law right to free use of property...It therefore provided that in particular situations, where harm...from some proposed activity upon 'wetland' areas was deemed to be minimal, some further invasion thereof could be permitted, but where the harm would be too great, it would be refused...and further provided that the Commissioner could grant, deny or limit a permit for such activity and for the judicial review of the reasonableness of his decision.

"In so doing, the legislature recognized that in every situation where a denial was involved, there would be some taking of private property for a public use, but it did not intend every such denial to result in giving the property owner the power to force the state to acquire his property...."

The Court continued, "It is reasonable and in accord with the law of this state that this appellant be allowed some feasible and practical use of his property... Nevertheless, the fact that the specific exercise of the police power prevents the enjoyment of certain of the appellant's rights in his property without providing compensation therefore does not necessarily constitute a taking without just compensation.

"Every legislative restriction of an owner's use of his property represents some loss of his total dominion over it. The court does not interpret the Commissioner's decision as holding that this appellant is precluded from filling any part of his wetland, only that the portion requested is too great in light of the declared legislative policy for these areas. Clearly, if the Commissioner refuses to allow the applicant to fill any of this wetland, a total taking in the Bartlett sense would occur and the state would be required to compensate the property owner."

THE VALUE OF TIDAL WETLANDS

The salt marsh estuarine ecosystem surpasses other natural systems in our temperate zone in terms of primary productivity. Primary productivity is measured by the amount of plant material produced per unit area per unit time. This ecosystem is important in terms of productivity for several reasons.

1) It is a nutrient trap. The marshes absorb excess nutrients from the estuary; these are later released when general supply is low.

2) Nutrients are recycled in a relatively short time. The marsh produces an excess of organic material. At the end of each growing season marsh grasses are broken down by bacterial decomposers to produce detritus. This detritus is utilized directly as a food source by marsh organisms and is also washed into the coastal estuaries by the fluctuating tides where it becomes the basis for an estuarine food chain. It has been estimated that two-thirds of commercially valuable Atlantic finfish and shellfish spend part or all of their life cycle in a salt marsh estuarine ecosystem, and play an integral role in the complex food web of the estuary.

3) Mixing of the fresh and salt water accompanied by tidal action results in nutrient transport and waste removal and great biological productivity. Ten tons of grass per acre per year or 300 pounds

of scallops per acre per year is not uncommon on an estuary. Approximately 60 species of birds inhabit tidal wetlands either permanently or as migrants. The wetlands serve as important breeding grounds and places of rest and food. Destruction of wetlands would eliminate this habitat and jeopardize the existence of many of these species.

By nature of their organic accumulations, or "peat", tidal wetlands serve as storm buffers and hydrological sponges which absorb large amounts of water during severe tides, thus containing the spread of floodwaters.

As sedimentary catch basins they serve as natural depositories for accumulations of sediments brought in by the tide, thus keeping channels free for navigation.

For further information

Connecticut's Coastal Marshes: A Vanishing Resource. Connecticut Arboretum at Connecticut College, New London, Conn. Bulletin No. 12, 1961

Connecticut's Coastal Wetlands Crisis; Connecticut Conservation Association, Northrop Street, Bridgewater 06752.

Tidal Marshes of Connecticut: A Primer of Wetland Plants; Connecticut Arboretum at Connecticut College, New London, Conn. Reprint Series No. 1, 1971.

Tidal Marshes Of Connecticut and Rhode Island; Connecticut Agricultural Experimental Station, Bulletin 709, 1970, New Haven, Conn.

coastal zone management program

Other programs dealing with tidal wetlands areas have come into being since the 1969 Tidal Wetlands Act. These are not specifically regulatory, but deal with planning for coastal areas which include the tidal marshes.

First, the Coastal Management Act of 1972. This federal act takes note of the importance and fragility of coastal zone areas and the many competing demands on them. It also states that present state and local procedures for planning and regulating land and water uses in these areas are inadequate. In the light of the above, the act encourages the states to more adequately protect coastal land and water resources through

specific programs, and provides for money to develop those programs.

The act is administered under the National Oceanic and Atmospheric Administration of the U.S. Department of Commerce. The Secretary of Commerce promulgates rules and regulations for the state programs. The states submit applications, and receive grants on the basis of need and compliance with program regulations.

Connecticut has submitted a proposal for a grant, and received the full amount requested: \$194,000 for fiscal '74 -- the first of three years of planning.



The proposal (available from DEP Room 117) states that the overall goal of the Coastal Zone Management program is protection, preservation and restoration, as well as the desirable economic utilization, of Connecticut's coastal resources. To achieve this goal, the following preliminary objectives are established:

- To encourage and control industrial, commercial, residential and institutional development in such a manner that cultural and economic benefit to people is maximized and adverse effects upon the natural resources of the coastal area are minimized.
- To provide for the receiving, handling and distribution of commodities, and satisfy needs for improved cross-Sound movement of people, both in an efficient, yet environmentally and socially acceptable manner.
- To preserve and protect areas of unique, scarce, fragile or vulnerable natural habitat, historical significance, cultural value, and scenic importance.
- To improve and upgrade existing water quality in order to meet appropriate standards.
- To provide sufficient quantity and diversity of recreational opportunities in the coastal area.
- To minimize damages sustained from tidal and riverine flooding through the use of solutions that have the smallest possible adverse effect on coastal resources.
- To minimize damage sustained from coastal and upland erosion and sedimentation through the use, where possible, of solutions wherein the natural long-term functions of Long Island Sound and the coastal area's rivers and estuaries are allowed to occur.
- To ensure efficient and environmentally acceptable fuel distribution, power plant siting, transmission of electricity, and conservation of energy.
- To maximize the productivity, enjoyment and economic value of the marine fishery resource.
- To protect and enhance the productivity and enjoyment of the shoreland wildlife resource.
- To provide adequate land based transportation to facilitate the movement of goods and people.
- To achieve and maintain a detailed data base upon which governmental guidelines, policies, decision-making, and regulatory activities can be based.
- To establish and carry out unified policies, criteria, guidelines and standards for effective and coordinated management of the coastal area by all involved governmental units.

Development of the program itself, as outlined in the grant proposal, is planned for a three year period, beginning from the date of funding, though implementation may begin in less than three years if possible. A staff of eight within DEP will oversee the program (this staff is in the process of being hired); and a Coastal Area Management Board will supervise the staff. On the Board will sit the Commissioners of DEP, Agriculture, Commerce, Community Affairs, Finance and Control, Health, Transportation, and representatives from the six coastal Regional Planning Agencies. A Citizens' Advisory Committee will also be established.

The development phase of the program is divided into seven areas of concentration:

1) Definition of Boundaries

In the beginning months of the program, coastal zone boundaries will be those used by the Long Island Sound Study discussed below. Final determination of the land boundary will come after study of the ecological systems, political boundary lines, visual man-made lines (such as highways) and social patterns. Seaward, the program boundary will follow the state jurisdiction line, though cooperation with New York is essential, since New York and Connecticut share Long Island's ecosystem. Part of the first year funding will be used for aerial surveys of coastal towns to aid in this endeavor -- these have already been flown.

- 2) Development of a strategy for land and water use in the coastal area. Permissible uses in certain critical areas must be determined, and permitted uses ranked by feasibility.

Strategies will be based on studies of development pressures on the land and water, character of the problems, limitations and values of natural resources, and policies in already existing plans (described elsewhere in this issue). Public participation will be especially important here.

- 3) Identification of geographic areas of particular concern. Certain critical areas such as tidal and inland wetlands are protected by existing programs. Other critical areas, such as those of high ecological value, flood potential, or heavy pressure for development with residential,

industrial, or recreational facilities, and those already highly industrialized or urbanized, or energy facility sites, either existing or proposed, will be carefully studied for special attention.

- 4) Administration, Review and Monitoring of Activities. Review and monitoring of important activities such as significant construction and other public and private activities will be monitored and evaluated for impact on coastal zone resources.
- 5) Organization for the management program. At present, federal, interstate, state, regional and local agencies and groups have programs, policies and projects in the coastal zone, and a coherent decision making system is necessary.
- 6) Public Participation. Connecticut's program recognizes the importance of public participation in both the formation and implementation of coastal zone policies. A citizen's advisory committee will be established as will other mechanisms for public participation; regional planning agency contacts will be used and public meetings and information stressed.
- 7) Regional Pilot Study. A pilot study will be conducted by the Southeastern Connecticut Regional Planning Agency (SCRPA) in the SCRPA area shoreline and Thames River estuary area. This region contains most of the land and water uses and major problems facing the state's coastal area and will provide a realistic laboratory to develop valid program elements.

SCRPA has identified two major areas on which it intends to concentrate -- the compilation of descriptive data on the coastal area's natural and man-made features, and the current decision making structures which affect the coastal area.



long island sound study

The coastal zone, which in Connecticut borders the Long Island Sound area, is subject of another program - a regional study under the New England River Basins Commission (NERBC), a federally funded agency which undertook the plan under the authority of the 1965 Water Resources Planning Act. The plan of study was begun in 1971, prior to the passage of the Coastal Zone Management Act.

The study is being conducted by NERBC staff, with cooperation of federal, state, regional and local offices as well as citizens' and scientific advisory committees. The NERBC has no power to regulate or manage, only to advise.

The study is concerned with ten major subjects: land use, water management, shoreline appearance and design, erosion and sedimentation, flood damage reduction, recreation, fish and wildlife, transportation, minerals and mining, and electric power generation.

The study has produced a draft report including a description of the area, analysis of the problems, and consideration of alternative solutions. Those the study staff favors for ultimate recommendation are indicated. The whole initial draft plan was subjected to extensive public meetings and discussions in late March and early April. The meetings were held on both the New York and Connecticut shores of the

Sound, and the draft report is now being reviewed in the light of public comments.

Recommendations are included on water pollution control measures, dredging and spoils disposal, water supply, fishing, mining, land use and development, recreation, wetlands and wildlife, power generation, natural forces, ports and harbors, shoreline appearance, population and economic growth, and a list of specific alternative local projects. A detailed planning report for the ten major functions was also prepared.

A comprehensive report will be drafted from these detailed planning reports and the public comments and this draft report will be subject to further public hearings and review. These hearings are projected to be held sometime in the fall, and the final report will be transmitted to the Governors of Connecticut and New York and the President of the United States.

A brochure summarizing the study and alternative recommendations, titled Toward a Plan for Long Island Sound is summarized in the spring, 1974 issue of The Urban Sea. It is available from Long Island Sound Regional Study, 270 Orange Street, New Haven, Conn. 06511.



inland wetlands

critical areas under local control

Inland wetlands are as critical to the preservation of natural systems, and as fragile, as are coastal wetlands. They also comprise a much greater part of the state - some 20-25%, or approximately 800,000 acres.

In Connecticut, activities within inland wetlands may be regulated by the municipalities - if they chose to do so, and adopt regulations to that effect. If they do not do so, the state is required to regulate the local wetlands, though the community may choose to assume the regulatory power at any time.

DEP is at present of necessity regulating inland wetlands in 45 municipalities. The agency advocates local control over these areas, as local regulating boards know local issues best, can watchdog local lands most effectively, and can be more accessible to wetland owners applying to conduct activities in regulated areas.

The Inland Wetland and Watercourses Act, (P.A. 72-155 and amendments), requires each consenting town to appoint a local regulatory agency which shall promulgate local regulations regarding activities

within designated inland wetlands. A map designating the inland wetlands of the municipality must be part of the regulations; the regulations must be consistent with state guidelines.

Within the boundaries of the designated inland wetlands, activities which remove material from, deposit material in, obstruct, construct, alter or pollute the designated inland wetland or watercourse may be undertaken only if a permit to do so is granted by the regulating body. Certain activities such as agriculture, boat mooring and uses incidental to enjoyment and maintenance of residential property are allowed as of right in the designated areas.



The Act, which is regulatory and not prohibitory, is thus a valuable land use tool. It requires that activities undertaken on certain areas designated by soil types in accordance with the act, be evaluated for their environmental impact before they are undertaken, not afterwards when unforeseen problems may develop.

The act also has the effect of mandating, for the first time, that consideration of the natural resource base must be a factor in land use decisions made on a local basis (in those areas which choose to regulate locally). For these two reasons, the inland wetlands and watercourses act is of prime importance in Connecticut's land use picture.

The implementation procedure for the act was discussed in greater detail in the May and August Citizens' Bulletins. For the purposes of this issue it should suffice to conclude by briefly recapping the value of inland wetlands, and thus the reasons for regulating activities affecting them.

The Value of Inland Wetlands

Inland wetlands are like sponges. They collect runoff water and hold it, releasing it slowly, and they provide broad flat areas that allow flood waters to spread out, thus playing an important role in flood control.

Through their spongelike capability inland wetlands also act as ground water recharge areas. Many an

aquifer or reservoir has a water level determined by wetland water storage capacities. Recreation areas as well as drinking water supplies thus benefit.

Inland wetlands act as a natural pollution control system. Studies have shown that wetlands filter pollutants from unclean water in impressive amounts. In the "Tinicum Marsh" study, waste

water from three treatment plants near Philadelphia was found to have a 57% reduction in BOD, 63% in nitrates, and 57% in phosphates within three to five hours after passing through Tinicum Marsh. The wetland had removed 7.7 tons of BOD, 4.9 tons of phosphate, 4.3 tons of ammonia nitrogen and 138 pounds of nitrate. This

ability means wetlands can play a significant role in controlling accelerated eutrophication as well as purifying water.

Inland wetlands remove sediment as well as chemical pollutants from water, thus preventing siltation and contamination problems downstream.

Inland wetlands, like tidal wetlands, are valuable and productive wildlife habitats. Fish spawn and develop in inland wetlands, algae basic to the aquatic food chain are produced, and insects, birds and mammals depend on wetlands for habitat, breeding grounds and for water, basic for survival.

Inland wetlands contribute significantly to the supplies of atmospheric oxygen and nitrogen, both necessary for life. The lush green plants in the wetland release oxygen during photosynthesis, and the rich mud that makes up the bottom soil of wetlands also releases oxygen as it fixes nitrogen. This nitrogen fixing process is just as important as the production of oxygen, for most living things cannot use the unfixed nitrogen in the atmosphere. Wetlands contain an abundance of bacteria which absorbs the unusable nitrogen and fixes it into the form necessary to sustain life.

Wetlands, because of the richness of their habitat, are prime educational areas, in which the science of

ecology (the interrelationships of living things and their environment) comes strikingly to life.

Diversity - a diverse ecosystem is a stable one, where populations of organisms keep each other in balance and nature's complex web of life, because of its variety, remains whole. A wetland is one of the most diverse and therefore most stable of environments.

While placing monetary value on a wetland is difficult, one can gain an indication of its economic value - a value provided with no capital outlay at all by man. Wetlands are principal habitats for fur bearing animals - and furs are a multi-million dollar business in the United States. Hunters, photographers and painters of waterfowl generate millions of dollars; fish which spawn in inland wetlands generate food and sport fishing economic values; marsh grass is valuable pasturage. Much more money is saved by the role of the wetlands in flood protection, sedimentation control and drainage.

Last, and certainly not least, though unquantifiable, wetlands provide aesthetic values, areas where nature in all her complexity and diversity may be enjoyed, where wildness is not yet subdued or simplified by man.

For further reference....

An Act Concerning Inland Wetlands and Watercourses; DEP, Room 217.

Model Municipal Regulations Implementing the Inland Wetlands and Watercourses Act; DEP, Room 217.

Inland Wetlands and Watercourses Regulations of the Connecticut Department of Environmental Protection; DEP, Room 217.

Inland Wetlands; Connecticut Conservation Reporter white paper. Connecticut Conservation Association, Bridgewater, Conn. 06752.

Wetlands, Land-Use and the Law; Connecticut Conservation Association as above.

Implementation Aids for Inland Wetland and Watercourse Agencies; \$1.00 Connecticut Inland Wetlands Project, Dead Hill Rd., Durham 06422.

Administrative Handbook for Inland Wetland Agencies; \$1.00, Conn. Inland

Wetlands Project as above.

Identifying Functions of Inland Wetlands; \$3.00, Conn. Inland Wetlands Project as above.

Proceedings: Wetlands Conference Report No. 21; Institute of Water Resources, Box U-10, UConn, Storrs 06268.

Management of water resources has historically meant management of land surrounding water, whether it be land upon which to anchor a dam, prohibition of development on land which is subject to flooding, or impoundment of water in land basins to create water supply reservoirs. The following articles are brief sketches of water resource management tools which involve land use.

stream channel encroachment lines

DEP has the authority (Sec. 25-4a-g as amended) to establish lines along any waterway or flood-prone area, lines beyond which, in the direction of the flood-prone area, no obstruction or encroachment shall be placed unless authorized by the DEP Commissioner. Authorization is granted only after a thorough review of the effects of a proposed encroachment on flood heights, flood storage and capacity, hazards to life and property and the natural resources of the state of Connecticut. The purpose of these lines is to insure preservation of a reasonable flood channel for the passage of future floods, to minimize future flood damages, and to protect the riverine ecosystem. The authority to establish the lines was originally delegated to the old Water Resources Commission; the initial legislation was stimulated by the damaging floods of 1955.

Municipalities may also establish encroachment lines as well as require that obstructions in waterways be cleared (Secs. 7-(146-147)). The state may, however, alter locally established encroachment lines to fit state criteria.

The state encroachment lines are established for a theoretical design storm which is consistent with local basin characteristics and historical flood records.

The state has designated some 300 miles of encroachment lines out of approximately 8,400 miles of rivers, streams and brooks in Connecticut. The cost of the detailed analyses and mapping required to set encroachment lines is very high.

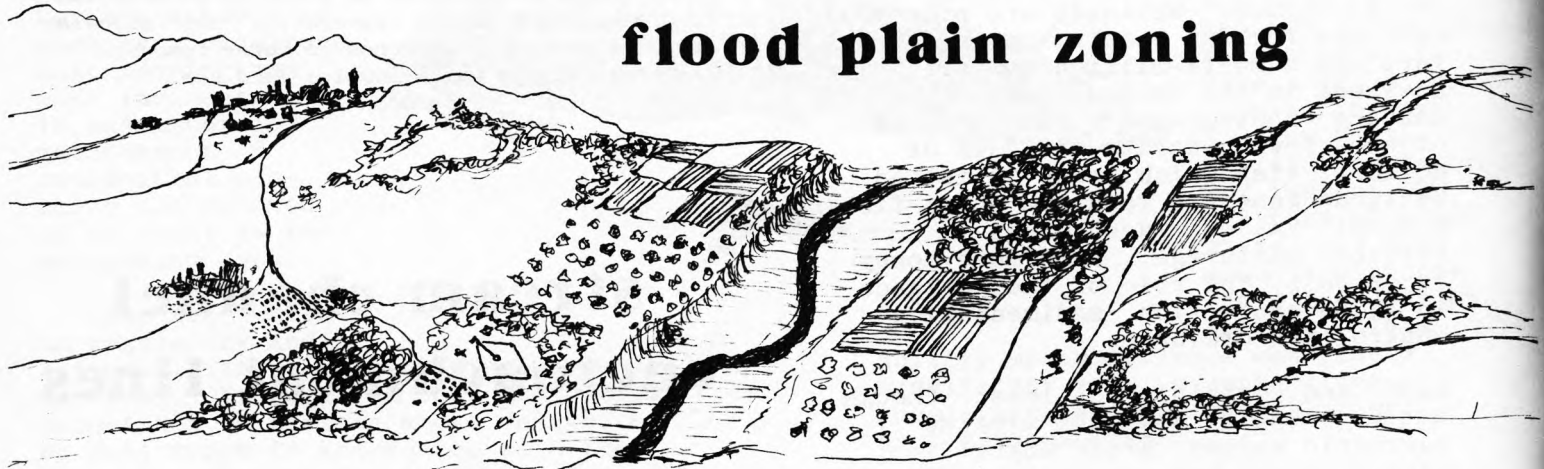
It is hoped, however, that a new technique combining aerial photography and HUD flood insurance studies may cut state costs considerably in the accurate establishment of encroachment lines.

Recent amendments to the enabling legislation have broadened the criteria

for the encroachment lines to include natural valley flood storage and biological considerations in review of application and permits for activities within the encroachment lines. This, it is hoped, will enable DEP's W&RR unit to establish future encroachment lines which will encompass the entire inundated flood area.

For further information....

DEP's Water and Related Resources Unit,
566-7280.



flood plain zoning

Channel encroachment lines are an important land use tool in flood damage prevention; flood plain zoning can be even more effective.

Flood plain zoning is entirely under local jurisdiction. Municipalities may, under their zoning powers, adopt flood plain zoning ordinances as a valid exercise of police power. (Sec. 8-2 "Such (zoning) regulations shall be made in accordance with a comprehensive plan and shall be designed to lessen congestion in the streets; to secure safety from fire, panic, flood and other dangers.")

Though the extent of regulation of activities falls in the grey area between police power and taking (see later discussion of this issue) actually, many activities are compatible with responsible flood plain land use - agriculture, golf courses, sanctuaries, wildlife habitat, forestry, recreation, open space in housing or institutional complexes, parks, marinas, water related or using industry. Flood plain zoning need not be a complete restriction on all uses, merely a careful consideration of compatible uses.

According to E. Zell Steever, DEP's Director of Water and Related Resources, flood potentials exist in virtually every populated area of the state. Yet, says

Mr. Steever, "in spite of an overwhelming volume of literature concerning storms, floods, water resource planning, natural resources, ecosystems and the demography of this state, no single comprehensive treatise or management system for our flooding resources exists in Connecticut."

While encroachment lines protect the flood way - the stream channel and adjacent lands within which construction would increase flood heights - flood plain zoning also protects the floodway fringe areas - the area outside the floodway which is inundated by the river in flood.

In general, under flood plain zoning in a municipality, the flood plain area covered by the waters of a 100-year flood (a flood with one percent chance of occurrence in any given year) is considered the area within which only flood compatible activities may safely be allowed. The Farmington River Watershed Association in an excellent publication "Flood Protection for Farmington River Towns" gives recommendations and models for drawing up flood plain zones. As a low cost interim measure FRWA recommends that in the Farmington River area, the flood plain bounded by levels reached by the 1955 floods be protected. These levels in many instances can be determined by

the Army Corps of Engineers flood profiles.

Roger Seamans, Executive Director of FRWA cautions communities to beware of the difference between flood prone areas designated by HUD in the Flood Disaster Protection Act (discussed elsewhere), and the historical data towns may have from previous floods.

"HUD projections do not take into account channel obstructions," says Mr. Seamans. "We all know flood water levels are raised higher by blockage of bridge abutments and other construction in the water's path."

As a result of the National Flood Disaster Prevention Act of 1973, discussed below, most Connecticut towns that have flood hazard areas will institute flood plain zoning in the near future.

While subdivision regulations apply

only to specific properties and are therefore less effective than flood plain zoning, they can be another effective municipal land use tool in flood management. Structural defenses against flooding such as dikes, culverts or retaining walls may be required, but most importantly, subdivision regulations can and should discourage developments in flood prone areas. The wetlands regulations are also of use here.

For further information..."Flood Protection for Farmington River Towns" may be ordered from the FRWA, Avon, Connecticut 06001, for \$1.50.

For a good technical discussion of flood plain zoning see Regulation of Flood Hazard Areas to Reduce Flood Losses, Vol 1, United States Water Resources Council, 2120 L Street, N.W., Washington, D.C. 20037.

flood insurance

new incentive for wise land use

Last December Congress amended the National Flood Insurance Act of 1968, adding provisions to the National Flood Insurance Law which will have great effect on land use in flood-prone areas. The law goes further than any in the past to encourage flood plain land preservation and non-structural solutions to flooding problems.

Any building or property owner can purchase the insurance once his community has been designated eligible by the U.S. Department of Housing and Urban Development (HUD) as having flood-prone areas. The community must also create and enforce land use regulations to reduce or avoid future flood loss. In this requirement lies the real land use significance of the new law.

Communities must be enrolled in the flood insurance program by July 1, 1975 in order to establish eligibility for any federal or federally-related financial assistance in designated flood-prone areas. The federal government has prohibited lending institutions from making real estate or mobile home loans after that date in areas identified as having flood hazards unless the community is participating in the flood insurance program. Assistance will not be available if the community or property owner does not comply with the regulations set forth under the program. This is a powerful

incentive because almost all banks and lending institutions are under federal supervision. The government is thus discouraging construction in flood-prone areas and indirectly regulating the use of such land where the community has refused to do so.

Once a community's application is approved, any property owner within the community may purchase flood insurance. In phase two of the program, the Federal government sends in experts to do an in-depth study of the flood-prone area. This will more specifically reveal the risk factor involved, and may determine a rate change for some properties. It will also enable participants in the program to double their coverage. The maps and other data compiled by this study will be available to the state and the communities - a most beneficial side effect as much of the available natural resource data is out of date.

The alternative to the insurance in the case of a flood-related disaster is for the community to rely on National Disaster Assistance. Formerly this assistance was a part grant and part loan arrangement, with very low interest rates. Now the program has been revised so that the assistance is totally a loan arrangement carrying much higher interest rates. This takes the burden off the taxpayer, as well as encouraging use of flood insurance with its land use

restrictions.

The Federal insurance administrator has notified many of the communities which HUD, after examining available data, designates as having flood-prone areas. HUD will have contacted all by July 1, 1975. If a community considers itself qualified for the insurance and has not been notified, it should submit a written request to HUD to be reviewed for participation.

If the federal government notifies a community that it has flood-prone areas and the community disagrees, it has six months to submit technical data to correct the designated flood hazard boundaries. The law also provides individuals and communities with appeal procedures for challenging the minimum construction requirements of the law.

If the municipality does not establish and enforce the zoning regulations that the federal flood insurance law requires for building on flood plains, the community's eligibility for the insurance and for federal grants and loans will be withdrawn. This means that existing policies will be honored, but no new policies or renewals will be allowed until such time that the community is reinstated in the program. Recently, a community in Florida issued building permits for a flood plain area and was suspended from the program. When the permits were rescinded, HUD reinstated the community.

Presently, 79 of the towns in Connecticut designated by HUD as having flood-prone areas have joined the insurance program - but the latest HUD list published in April identified 156 of the 169 communities in Connecticut as having flood-prone areas. This means that there are still 77 towns which have not complied with the new law and are not presently eligible for flood insurance.

HUD designates the insurance companies that will service specified areas. The Aetna Insurance Company has been designated to service the entire state of Connecticut and western Massachusetts, and report to the federal government weekly on the status of the program.

Aetna supplies flood and rate maps, flood manuals, and other information to communities in the state. It verifies policies, issues endorsements, and is authorized to settle claims up to \$10,000. Any claims over that amount must be settled by the federal government. Aetna does not interpret coverage as part of its servicing role; this also must be done by the federal government.

Over \$7 billion of taxpayer's money has been spent on flood control structural works since 1936, and the amount of property damage from floods has been increasing so that there is now about \$1.25 billion of property damage annually. The thrust of the law in these two areas constitutes a major initiative for responsible land use planning.

The Flood Insurance Program may be a powerful tool for conservationists interested in sound land use along rivers. Citizens can be active on the local level in order to assure proper implementation of the program at several critical points:

- if a community has been designated by HUD as being flood prone but is considering challenging its designation, evidence should be presented to try to dissuade HUD; if that does not work, evidence should be sent to the FIA to counter the community's arguments. Citizens can push for hearings at this point, depending on the circumstances.

- when a community applies for admittance to the Flood Insurance Program, citizens should work with the community officials to see that building regulations are drawn up which restrict development in flood prone areas. Many of these are minimal requirements and citizens may be able to convince their local officials to place more stringent controls.

- it is important for citizens to monitor the enforcement of the flood plain land use controls at the local level. The federal government does not have the manpower to oversee all local actions but HUD can be effective if citizens keep it informed of lax enforcement and follow the resulting action.

Problems or questions concerning flood insurance can be addressed directly to HUD through a toll-free telephone: 800-424-8872. Further information on the flood insurance program may be obtained by contacting Aetna's Flood Insurance Department, 345 North Main Street, West Hartford 06117, 523-4861.

Applications and initial information about the insurance are also available from Vic Galgowski, Water and Related Resources Unit of DEP, 566-7280. DEP is acting as the state coordinating agency, though it is not directly involved in administering the program.

Completed applications should be sent to the Federal Insurance Administration, HUD Building, Washington, D.C. 20410. Policies may be obtained from any licensed property and casualty insurance agent or broker, but must be filed with the Aetna. As of mid-October, 2,790 flood insurance policies have been sold in Connecticut.

The law is significant for land use practices in discouraging construction on flood-prone areas. It is equally significant in discouraging the use of large-scale structural measures designed to prevent or reduce the natural extent of flood inunda-

tion. Structural solutions are discouraged because of the cost involved, decreased availability of appropriate sites, and the negative environmental impact associated with such projects.

flood control projects

...for small watersheds

The Watershed Protection and Flood Prevention Act (Public Law 566) is another water management program with sizable land use implications. P.L. 566 authorizes the Secretary of Agriculture to give technical and financial help to local organizations in planning and carrying out watershed projects. The program is administered by the Soil Conservation Service (SCS).

P.L. 566 provides for technical and financial assistance by the United States Department of Agriculture (USDA) to state or other local organizations for land treatment, flood prevention, irrigation, drainage, public recreational or fish and wildlife developments, and municipal or industrial water supplies on watersheds up to 250,000 acres in size.

USDA contribution to these projects is of three kinds: (1) technical assistance in planning, designing, and installing works of improvement; (2) sharing costs of flood prevention and agricultural water management, public recreation or fish and wildlife developments; and (3) extending long-term credit to help local interests share the costs, including development of industrial or municipal water supplies.

These projects are planned for integrated use and conservation of all water and related land resources in a watershed. Structural measures can be of three kinds: (1) Flood-prevention measures -- which are eligible for federal assistance for the full cost of construction and engineering; (2) agricultural water-management measures, such as drainage and irrigation, provision of a more uniform supply of water for agricultural use, and public recreation or fish and wildlife developments -- which are eligible for federal technical assistance and cost sharing; and (3) nonagricultural water-management measures such as municipal or industrial water supplies and stream regulation -- for which local interests

pay the cost. Federal monies can at present only be used for structural measures, though Robert Halstead, SCS State Conservationist for Connecticut, sees a change coming where P.L. 566 monies may be used for nonstructural flooding solutions, such as flood proofing, flood plain management and development of flood plain zoning ordinances.

The encouragement of soil and water conservation measures, including contour farming, pasture planting, tree planting, grassland renovation and erosion control practices planned and applied by upstream property owners are an important part of any project.

The Department of Environmental Protection sponsors P.L. 566 projects which cover more than one municipality; projects entirely within a single municipality may be locally sponsored. The sponsor is responsible for obtaining necessary land, easements and rights of way and operating and maintaining the structures.

A watershed plan is developed cooperatively by the sponsor and interested state and federal agencies, it is reviewed in public meetings with representatives of all groups concerned. All plans and designs must be approved by the Department of Environmental Protection before federal funds are made available for construction.

Fourteen P.L. 566 projects are either complete, under construction or in planning.

Completed: Furnace Brook-Middle River, Roaring Brook-Walnut Street, Spaulding Pond Brook, North Branch-Park River and Blackberry River.

Under construction or being planned: South Branch-Park River, Norwalk River, Farm Brook, Yantic River, Steel Brook, Coginchauk River, Avery Brook, Neck River and Farm River.

Some \$20 million has been spent in Connecticut over the last 15 years on P.L. 566 projects.

DEP, by Sec. 25-7-b-f of the General Statutes, must issue a permit before any

structure is placed in the waters of the state, or any dredging in tidal, coastal or navigable waters carried out. Because of this law DEP is involved in every P.L. 566 project whether it is a sponsor or not.

For further information....

Small Watershed Projects - Local People Start Them and Local People Make Them Work

Let's Grow - Community Benefits for Watershed Projects, Soil Conservation Service, Mansfield Professional Park, Storrs, Conn. 06268.

... for large watersheds

SCS handles small watershed projects; the U.S. Army Corps of Engineers handles flood problems on watersheds over 250,000 acres, implementing a host of flood control, navigation, shore protection, hurricane and tidal flood protection projects. Connecticut has many such projects within its boundaries. According to the Corps, Connecticut contains portions of three major flood producing basins, the Housatonic, Connecticut and Thames River Basins; the western portion of the Pacatuck River Basin along the Conn.-R.I. state line; and three coastal areas which comprise about 20% of the total area of the state. In addition, 19 square miles along the western fringes of the state are located in the

Groton River drainage of the Hudson River Basin.

The Corps also compiles and disseminates (under Section 206 of the 1960 Flood Control Act) information on floods, flood damage potentials and criteria for general guidance of flood plain use.

A community may request Corps assistance through DEP's Water and Related Resources Unit (Steve Tibbets). Assistance may consist of engineering data such as identification and mapping of areas subject to flooding, compilation of hydrologic flood frequency and flood damage information and general criteria on flood plain use.

Technical assistance in preparation of flood plain regulations, flood hazards at specific sites and flood proofing measures is also available from the Corps.

This is not the place to detail the many Corps projects and these land use effects; those concerned with land use as an issue should be aware that Corps projects play a significant land use role in the State.

Further information....

U.S. Army Corps of Engineers. 424 Trapelo Road, Waltham, Mass.

surveying streambelt corridors

The Soil Conservation Service, in addition to administering P.L. 566 projects, oversees a "streambelt system" program designed especially to encourage wise land use around water systems.

Municipalities may obtain SCS assistance in delineating streambelt corridors and their uses by requesting aid, usually through a letter, to their local Soil and Water Conservation District.

Following district approval, a meeting between SCS and local groups and interested citizens will be held to determine the extent of participation and role of each.

A streambelt, according to SCS guidelines, includes the watercourse of a

defined stream (water bed and banks), lands subject to stream overflow, associated wetlands, shorelines of lakes and ponds associated with the stream, and areas near streams where development would have adverse environmental effects on the stream, such as pollution and health hazards, erosion or sedimentation.

Streambelt delineation may also include contiguous lands with special environmental values (wildlife habitat, scenic, historic, aesthetic, potential water development sites) and other areas necessary as links to form a continuous streambelt system.

Available information may help in initial identification of a streambelt

system; such data may include flood plain studies; open space plans; reservoir site studies; aquifer locations; historic, scenic and scientific features; wildlife habitat studies; critical erosion areas; water quality inventories; sand and gravel deposits; land use inventories, soil surveys; topographic maps and aerial photography.

Actual identification is done through map studies and field visits of SCS technicians working with local groups.

Identification of a streambelt system leads naturally to land use decisions on the use of that system, and here also SCS can identify options. In many cases multiple land use will be possible. According to SCS guidelines the following uses are compatible with streambelt systems (determined by soils types).

I. Land uses compatible with streambelt areas

- sanctuaries, wildlife preserves, educational study areas, forestry and wildlife habitat
- according to the soil types - agricultural activities, outdoor recreation uses, recreation and uses that maintain permanent vegetative cover.

II. Conditional land uses based on soil characteristics (uses will require regulation to avoid deterioration of the land)

- highways, roads, utility lines, dams, bridges, mining, quarrying, earth removal, dredging, small recreational buildings, boat docks
- depending on the soil types - ponds for irrigation, recreation, wildlife

III. Restricted land uses based on soil characteristics - usually not compatible with the objectives of streambelt system.

- buildings - residential, commercial, industrial or institutional

- on-site sewage refuse disposal
- junkyards, industrial storage
- barns, stables, feed lots, poultry buildings
- access to watercourses by domestic livestock
- according to soil type, cropland, hayland, pasture, drainage and land filling may be incompatible.

There are many ways of implementing a streambelt system - public acquisition, land trust, conservation easement, wetlands regulations, 566 projects, flood insurance regulations, etc.

Southington is building a local streambelt system by requiring developers to set aside land for each plot they develop. If there is water on the property, the town tries to assure it is included in the portion set aside for open space.

The SCS streambelt program was developed before the state inland wetlands act, but the two programs mesh nicely. SCS streambelt surveying has had to slow down as other priorities engage limited personnel and SCS has put increased emphasis on implementation of the systems already mapped. Nonetheless, the concept bears investigation.

For further information....

Most of the details for this article were edited from SCS-publication A Guide for Streambelts - A System of Natural Environmental Corridors in Connecticut. For a copy of the publication write Soil Conservation Service, Mansfield Professional Park, Storrs, Conn. 06268.



erosion and sedimentation

overlooked pollution

Thoughtless changes in the natural state of land can leave it raw and bleeding - dirt, not blood. The flowing dirt, washed by rain from eroded sites, ends in the nearest waterway, and sediment then settles and clogs the stream. Erosion of land can render it unproductive; mudslides can result, and storm sewers clog with silt.

It is estimated that the average annual economic cost to the American people from sediment damage is in excess of \$500 million. Flooding problems result from silted up water channels, wildlife habitat is destroyed, reservoirs silt in, reducing their water storage capacity, harbors silt up, necessitating costly dredging be undertaken, silted water must be purified, and recreation areas cleaned repeatedly.

Erosion and sedimentation problems are omnipresent, in both urban and rural areas. Rural problems have received more attention in the past than urban ones, for erosion of a farmer's land means a real economic loss to its owner - consequently measures to prevent erosion are fairly standard practice on agricultural lands.

But erosion and siltation from activities which change the land use patterns on urban lands, particularly an activity such as construction, are an even more severe problem. Some erosion will almost inevitably occur during construction, but measures to control the resulting siltation are not by any means standard practice. The agent developing the land initially may not be the same person who will live on the land and thus may not realize the long-term erosion problems his activities cause.

The problem has been with society as long as man has been clearing land to build for his many needs. The Dust Bowl days thrust erosion into public view as millions of acres of land blew and washed away, leaving the remaining earth spoiled and unproductive and the waterways full of silt. The Soil Conservation Service (SCS) was formed as a result of the crisis and has been advising farmers and other landowners for years on how to control erosion.

Soil and Water Conservation Districts, (SWCD) governed by local residents, were also formed to work with SCS in controlling erosion and sedimentation.

Districts continue their work in Connecticut under the new aegis of DEP, as of P.A. 74-325, and have done an admirable job in counseling public and private landowners on how to control erosion and sedimentation. (A public hearing will be held November 18, 1974, on regulations establishing a Connecticut Council on Soil and Water Conservation to coordinate the activities of the Boards of Soil and Water Conservation Districts, and propose and review regulations on soil and water erosion control. See calendar).

Aside from the SCS and SWCD work, however, Connecticut residents have until recently regarded the erosion and sedimentation problem as a chronic, but rather low-profile problem, less dramatic than air and water pollution and therefore less in the public eye, and not as quickly dealt with - though sedimentation is a greater polluter by volume of our water than any other polluting substance. In Connecticut, nearly 5 million tons of soil are eroded each year - though not all wind up as sediment in our waterways.

Sediment in waterways is considered a form of pollution, and is thus subject to the control of DEP's Water Compliance Unit. This control can, however, only be exercised after the fact, when activities on land which cause erosion have already begun. The state has no law or policy that would mandate preventative measures be taken before construction has begun, and only a few local towns have such a policy.

At present, the only statewide standards on erosion control in effect are those issued by the Federal Highway Administration, which require erosion prevention techniques be used in highways constructed with federal aid.

This picture of benign neglect is changing, however. In 1972, the Council of State Governments and the Environmental Protection Agency conducted a national symposium on environmental legislation to propose model legislation to recommend to the states. Sediment control was one of the issues. Connecticut was represented by a number of its legislators and members of the Connecticut Association of Soil and Water Conservation Districts. Later, the state received EPA funds to hold an institute exploring the problems and solutions in the state. This institute,

held in May of 1973, synthesized the work done on erosion and sedimentation over the past 30 years by the Extension Service, the Soil Conservation Service, the U.S. Geological Survey and the Army Corps of Engineers, and discussed model codes to control erosion and sedimentation, both in the short term while actual development takes place, and in the long term when the new land use has been established.

Since erosion in one town can cause sedimentation in the next, and waterways know no political boundaries, a set of standards that can be uniformly applied throughout the state is needed. A new effort following up the work of the conference is underway to develop recommended administrative procedures and technical elements required for implementation of a statewide sediment and erosion control program. Commissioner Costle has appointed a task force of DEP staff from the Water Compliance, and Water and Related Resources Units and the Natural Resources Center to study the financial aspects of erosion and sedimentation and the legislative and administrative needs to control the problem. A technical committee on soil erosion practices was also funded to advise the DEP task force. This committee will explore uniform standards which could be applied throughout the state. Membership on the technical committee includes mayors, developers, SWCD chairman, SCS, and soil scientists. Although work has just started, the objective is to define a manageable way to incorporate effective sediment and erosion control in the planning, construction, and follow up phases of the land development process in Connecticut.

Erosion and sediment can be controlled during construction by catch basins, check dams, new plantings, terracing, rip-rapping, vegetative groundcover, and various other means. Most important is a plan to minimize erosion before construction begins. We have the knowledge and the tools - all we need is the implementation. The task force will be making recommendations to control soil erosion and sedimentation for the entire state - look for them within a year.



of state control laws, several towns have gone ahead on their own to adopt local erosion and sedimentation control ordinances. One of these, East Lyme, did so working with the SCS, and using as models ordinances from Maryland, Ohio and Michigan.

While ordinances may of necessity differ from town to town as political and environmental structures vary, the following excerpts from the East Lyme ordinance may prove helpful. In addition to erosion control, the town uses the ordinance to improve implementation of its inland wetlands regulations.

EAST LYME - EROSION AND SEDIMENTATION ORDINANCE EXCERPTS

The soil and vegetation are an inter-related system of nature essential to adequate control of surface and underground water, erosion and sedimentation. Land and water courses have been destroyed or are in danger of destruction because of unregulated use by reason of earthmoving activities which have an adverse effect upon the delicate balance of land, water and vegetation...

...It is the policy of the Town of East Lyme and the East Lyme Conservation Commission to encourage citizens to take advantage of the assistance of state and federal agencies with special knowledge and experience in the area of erosion and sedimentation control...

...Within the limitation provided by law, it is the policy of the Town of East Lyme to provide for the restoration of an area affected by a violation of this ordinance to its condition prior to the violation, whenever possible...

...In the event that any owner or developer of land in the course of any project that requires Planning Commission approval shall intend to make changes in the contour of any land proposed to be subdivided, developed or changed in use by grading, excavation, or the removal or destruction of the natural topsoil, trees, or other vegetative covering thereon, said owner or developer shall first obtain from the Planning Commission its approval of a plan which includes provisions for a

soil and water management system. Said plan shall take into account erosion, sedimentation, surface drainage, and internal drainage, and shall contain measures for prevention of erosion and siltation resulting from said changes...

...In the event that any owner or developer of land shall intend to make changes in the contour of any land...and said project does not require approval of the Planning Commission, said owner or developer shall first obtain a permit for such change from the Planning Commission or its designee. Such permit may require measures to be used by any owner or developer in the control of potential erosion and sedimentation...

... The provisions of (a specified section) shall not apply to individual homeowners engaged in activities incidental to the maintenance or improvement of their premises, such as home gardening and landscaping...(nor to) farming... conducted by owners or operators of farms and nurseries, so long as the earthmoving activities involved in such farming are conducted in accordance with approved soil conservation practices of the New London County Soil and Water Conservation District,(nor to) an owner of a single lot engaged in earth-moving activities

in connection with the construction of a single-family residence thereon for his own occupancy, so long as such activities are completed within nine months from their commencing...

...In the event that the earth-moving activities or other activities approved by the Planning Commission or its designee result in erosion, sedimentation or siltation, the Planning Commission...is authorized to require the owner or developer engaging in such earth-moving activities or other activities to cease such activities until a plan providing for adequate corrective action is submitted to and approved by the Planning Commission...

For further information....

The Proceedings of the Governor's Conference on Erosion and Sediment Control, May 31, 1973, available from Room 215, DEP. A Connecticut Erosion and Sediment Control Handbook from the USDA Soil Conservation Service, a detailed handbook on ways to control erosion according to soil, land and construction type, with model local ordinances, is at present out of print, and an updated version being prepared. This will be available from SCS, Mansfield Professional Park, Storrs, Conn. 06268 in a few months. East Lyme ordinance is available from DEP, Room 110.

environmental impact statements

building blocks for land use planning

An environmental impact statement (eis) can be a key tool in weighing land use consequences, a means to consider the impact a proposed action would have on the environment before the action is taken. It may seem surprising that actions were (and are) undertaken without consideration of the effects they would have on the natural and social systems for which they are proposed, but this has been, and still is, all too often true.

In 1969 a quiet revolution began to change this.

NEPA

The federal environmental impact statement process, instituted in 1969 with the passage of the National Environmental Policy Act (NEPA), is part of a "national policy which will encourage productive and enjoyable harmony between man and his environment". NEPA requires that each federal agency prepare a statement of environmental impact in advance of each major action, recommendation or report on proposals for legislation which may significantly affect the quality of the human environment.

Such an environmental impact statement must include

- the environmental impact of the proposed action
- any adverse environmental effects which cannot be avoided should the proposal be implemented
- alternatives to the proposed action
- the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity
- any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Title II of NEPA established a federal Council on Environmental Quality (CEQ) which developed guidelines for the implementation of the eis regulations. The most recent of these guidelines were published in the August 1, 1973 Federal Register, Part II (available at the state and local libraries). These guidelines will be re-

placed by federal regulations which CEQ is in the process of drafting.

The recent guidelines establish the framework within which each federal agency must operate, and require that each federal agency prepare an individual agency procedure for the preparation of eis's for their programs, projects and legislation. The CEQ then reviews the agency guidelines (also published in the Federal Register) to determine their consistency.

Within NEPA procedures DEP plays a significant role in commenting upon federal legislation, programs and projects which are in or will affect Connecticut. Although NEPA does not require state agencies to review an eis, DEP does do so, as may any citizen, as a concerned party to these actions.

Since August 1972, DEP has received approximately 40 eis's for review. The largest source of eis's was the Department of Transportation, with the second largest number from the Corps of Engineers. Examples of eis's reviewed to date include proposed I-291 in the Hartford area, the Corps proposal to dredge New Haven Harbor, the Corps proposal to divert water from the Connecticut River in Massachusetts and the proposed Oyster Bay, New York to Rye, New York cross-long Island Sound Bridge. The eis's are sent to DEP either directly or through the State Clearinghouse managed by the State Department of Finance and Control. Normally DEP is allowed 45 days for review and preparation of comments.

The coordination for the review of eis's in DEP is in the Planning and Research Unit. This unit circulates the eis to the functional units in the agency; solicits comments; and prepares a unified department response. The eis's are also concurrently available for citizen review. DEP encourages citizens to send the department copies of their eis comments, as citizens often have a much greater knowledge of local issues than does a state agency.

Generally, the comments of DEP on

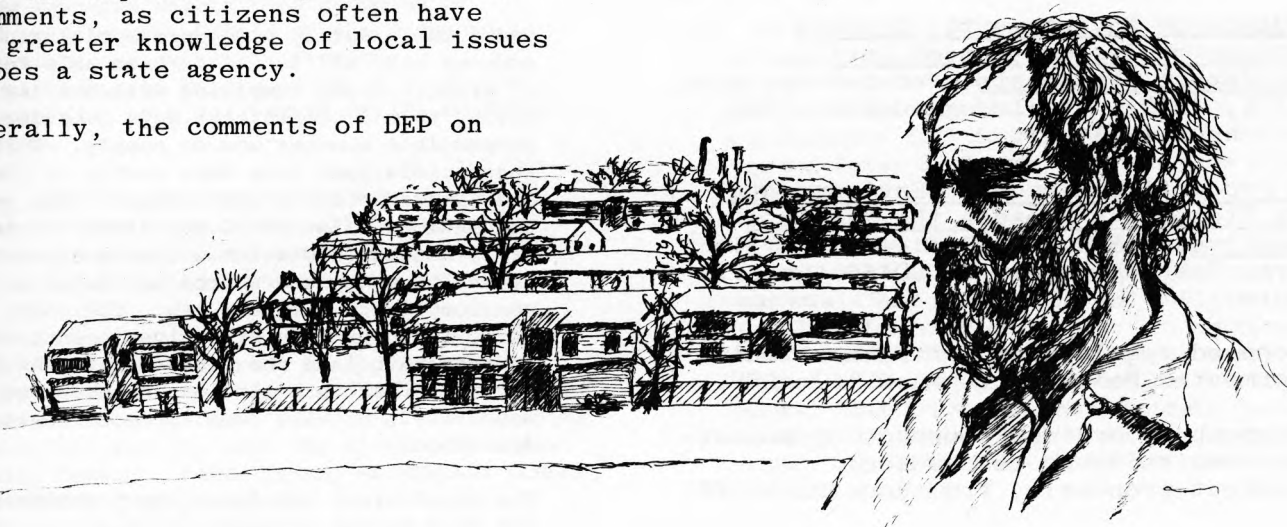
environmental impact statements are not binding, but are provided as constructive criticism. DEP comments on the draft must be included in the final eis and any questions or criticisms addressed.

THE STATE EIS

Since 1969, a number of states have passed state environmental policy acts which will require the preparation of an eis for those state agency projects having significant environment impact. Connecticut joined these states with the passage of P.A. 73-562, "An Act Concerning the Adoption of a Connecticut Environmental Policy Act (CEPA)". The act requires each state agency to review its policies and practices to insure that they are consistent with the state's environmental policy. Each state agency responsible for the primary recommendation or initiation of actions which may significantly affect the environment will be required to make a written evaluation of the action. "Actions" under CEPA include only actual projects and programs (under NEPA, legislation and regulatory actions are also included in the definition of "action"),

This evaluation must include a discussion of: 1) consequences to the environment, including primary and secondary impacts on ecological systems; 2) adverse environmental effects which cannot be avoided and are irreversible and irretrievable commitments of resources should the proposal be implemented; 3) alternatives; 4) an analysis of costs and benefits over the long and short term.

The act requires these evaluations to be in accordance with regulations promulgated by the DEP Commissioner. The evaluations will then be reviewed by the Connecticut Council on Environmental Quality, DEP and other appropriate agencies



and will be available to the public for inspection and comment at the same time. These agency reviews of the statements will be forwarded to the State Planning Council (composed of state commissioners), and after reviewing the evaluation and comments, the State Planning Council will make a written recommendation to the Governor which shall also be made public.

The recommendation made by the State Planning Council concerns the project itself, not merely the adequacy of the eis (though a project may in effect be turned down because of an inadequate eis). This is in contrast to the federal CEQ role in NEPA; the federal agency can only comment on the adequacy of the eis and its environmental impact, not reject the project.

The state act becomes effective February 1, 1975, and proposed DEP regulations to implement the act have just been issued. Three public hearings will be held on the regulations: November 19 in Hartford, November 20 in Bridgeport and November 21 in Norwich. Citizens are urged to testify on these important regulations. See Calendar for details.

THE LOCAL EIS

Municipalities have begun to require similar impact assessments on the local level for municipal and private development, Glastonbury being the first to do so in Connecticut (see May Citizens' Bulletin for details). Details and criterion for a good eis will be discussed in future issues; suffice it to say here that impact assessments are valuable tools in land use decision-making and all the decision-makers should be aware of their importance and possibilities.

For further information....

Council on Environmental Quality Guidelines on Preparation of Environmental Impact Statements; Federal Register, August 1, 1973 (detailed guidelines for federal agencies).

In Productive Harmony: Environmental Impact Statements Broaden the Nation's Perspective; U.S.E.P.A. Office of Public Affairs, Washington, D. C. 20460 (general brochure).

Proposed regulations for Connecticut Environmental Policy Act, Room 117, DEP.

Glastonbury ordinance mandating conservation commission to review local development proposals, from Room 110, DEP.

calendar



Public Hearings, deadlines for comment, noteworthy dates

Hearings may be rescheduled, or planned too late for the Bulletin publication date; this does not, therefore pretend to be a complete or official list. It is wise to call and check scheduling before attending a hearing; for details call 566-3489 or number listed. All documentation may be seen at DEP unless otherwise noted. Some hearings may be completed before you receive this Bulletin; they are included to provide a continuous record of department activities.

Nov. - Four workshops, to show how computers can be used to provide environmental education topics, activities and resource information for specified classes of students, will be held around the state during November and December. Contact Dr. Sigmund Abeles, State Department of Education, for dates, times and places; 566-4825.

Nov. 11 - 7:30 p.m. Granby Conservation Commission sponsored public meeting on Saving the Farms? with Don Tuttle of the Governor's Task Force on the preservation of agricultural lands. Public welcome; CCA white paper on preservation of agricultural lands distributed. TOWN HALL, GRANBY.

Nov. 12 - 7:30 p.m. Hearing on adoption of Civil Penalties for violation of air emission standards and violation of the terms of an order of the DEP Commissioner. The regulations impose civil assessments for two areas of violation: non-compliance with existing particulate, sulfur, organic, carbon monoxide, and nitrogen oxide emission control regulations; and failure to comply with the terms of a final order to abate such a violation. They provide for judicial review of all DEP orders, and set a ceiling for the assessment for a single violation.

Under the existing procedures, violating sources have all too often been able to avoid or greatly delay complying with the law - giving them a competitive edge over more responsible sources who do comply. Moreover, these violations have been costly to the State and damaging to the environment. The proposed regulations allow the Commissioner to impose civil assessments which would be equal to the amount of money the source had saved by non-compliance with the law. The goal, therefore, is to provide effective incentives to sources that face the decision of whether or not to invest in pollution abatement equipment, i.e., to make compliance economically desirable.

The regulations set forth the procedures that DEP will follow in handling these violations. At any step during a warning and conference

period, and after an order has been issued, the source may decide to comply and no penalty will be assessed against it.

Copies of the regulations are available from the Air Compliance Unit, Room 188, address on masthead. COMMON COUNCIL CHAMBERS, CITY HALL, 45 LYON TERRACE, BRIDGEPORT.

Nov. 13 - Same as November 12

10 a.m.	7:30 p.m.
ROOM 221	ALDERMANIC CHAMBER
STATE OFFICE BLDG.	CITY HALL
165 CAPITOL AVE.	235 GRAND ST.
HARTFORD	WATERBURY

Nov. 14 - 7:30 p.m. Same as November 12. CIRCUIT COURT ROOM, CITY HALL, NORWICH.

Nov. 15 - 10 a.m. Hearing on application of First Hartford Realty Corporation (Somerville Manufacturing Company) for one new discharge of 1400 gallons per day of treated sanitary sewage into the groundwaters of Somers. ROOM 129, STATE OFFICE BUILDING, HARTFORD.

Nov. 15 - 8 p.m. Great Meadows Conservation Trust Inc. and Glastonbury Sub-Chapter of Nature Conservancy co-sponsored fall meeting on Escalating Food Prices? Panel of fruit and vegetable farmers on problems of remaining in agriculture in these inflationary days; and Don Tuttle on the recommendations of the Governor's Task Force on the Preservation of Agricultural Land. ROCKY HILL LIBRARY, 33 CHURCH STREET, ROCKY HILL.

Nov. 17 - Deadline for comment on application of New Haven - Department of Public Works - to extend a permit to construct and maintain a double bascule steel and concrete bridge over the Quinnipiac River at New Haven. Information from 566-7160.

Nov. 18 - 10 a.m. Hearing on adoption of regulations establishing the Connecticut Council on Soil and Water Conservation. The Council will coordinate the activities of the Boards of Soil and Water Conservation Districts, propose regulations to DEP on soil and water erosion control and review approved regulations proposed by DEP Commissioner. Copies of the proposed regulations are available from the Natural Resources Center, Room 561, address on masthead. ROOM 221, STATE OFFICE BUILDING, HARTFORD.

Nov. 18 - Deadline for comment on application of town of Stratford to install and maintain a sewage treatment plant outfall which will extend into tidal waters. Information from 566-7160.

Nov. 19 - 7:00 p.m. Hearing on application of Pfizer, Inc. for two existing discharges, one of compressor cooling water and one of spring water and rainfall runoff, into the Blackberry River in North Canaan. NORTH CANAAN ELEMENTARY SCHOOL, PEASE STREET, NORTH CANAAN.

Nov. 19 - 7:30 p.m. Hearing on application of town of Darien to install plastic force mains across Cove Harbor in a wetland on Parcels 5 & 37 in Ecological Unit 3, Sub-division 1, Stamford. ROYLE SCHOOL, 133 MANSFIELD AVE., DARIEN.

Nov. 19 - 2:00 p.m. Hearing on adoption of regulations for the Connecticut Environmental Policy Act (CEPA). See article page 32. The hearing will adjourn at 6 p.m. and reconvene at 7:30 p.m. Copies of the proposed regulations are available from Planning and Research, Room 117, address on masthead. Deadline for written comments is November 29. HALL OF THE HOUSE, STATE CAPITOL, HARTFORD.

Nov. 20 - 10 a.m. Hearing on applications of five persons, each to install a subsurface sewage disposal system and discharge the effluent into the groundwaters in the watershed of Lake Waramaug. This date also deadline for comment. ROOM 129, STATE OFFICE BUILDING, HARTFORD.

Nov. 20 - 9:30 a.m. Federated Garden Club's Annual Conservation Meeting directed at "other sources of energy": J.R. Jackson, Manager of Exploration and Environmental Affairs, Exxon Company, Houston, on Off Shore Oil Drilling; Reeves Morrison, United Aircraft Technology Staff, on Solar Energy; Rodney R. Krause, Director of Reclamation Services of the National Coal Association, Washington D.C., on Strip Mining; E. Chris Beck, DEP Deputy Commissioner and Acting Energy Director for Connecticut during last winter's shortage, and member of the Governor's Advisory Committee on Energy, on the Outlook for Connecticut. Guests are welcome. AUDITORIUM, CONNECTICUT AGRICULTURAL EXPERIMENT STATION, 123 HUNTINGTON STREET, NEW HAVEN.

Nov. 20 - 7:30 p.m. Hearing on adoption of CEPA regulations as 19th. COMMON COUNCIL CHAMBERS, 45 LYON TERRACE, BRIDGEPORT.

Nov. 21 - 7:30 p.m. Hearing on adoption of CEPA regulations as 19th. CIRCUIT COURT ROOM, NORWICH CITY HALL, NORWICH.

Nov. 22 - Deadline for comment on application of Paul H. R. Waldron to construct and maintain an existing stone rip-rap, to fill an area, build a concrete reinforced retaining wall, and relocate fill in Pine Island Bay at Jupiter Point in Groton. Information from 566-7160.

Early December - International Pollution Exhibition which will include photographs, documented materials and specimens, and publications. Deadline for entries is Nov. 30; no entrance fee. Information from Dr. Satyakam Sen, Associate Professor and Coordinator, Environmental Health Program, Northwestern Connecticut Community College, Park Place East, Winsted 06098. NORTHWESTERN CONNECTICUT COMMUNITY COLLEGE.

Dec. 9 - 13 Energy Conservation Corps training workshops to be held throughout New England, including five areas in Connecticut. Sponsored by Bolton Institute, based in Washington, D.C.; the workshops will emphasize the urgent need to conserve energy in New England, and will offer a plan of action and materials for recruiting and training high school volunteers to go to elementary school classes with a home energy - conservation action plan. A team of two students and one teacher is invited from every high school to attend the workshop in their area. Inter-district agency contacts:

Dec. 9 - Northwest Area
Russ Butera, 354-2218
Dec. 10 - Greater Hartford Area
Charles Haller, 522-6137
Dec. 11 - New Haven Area
Andrew Carrano, 562-9967
Dec. 12 - Southwest Area
Margaret Neilson, 762-5518
Dec. 13 - Shoreline Area
Francis Robinson, 245-1301

Dec. 13 - 10 a.m. Hearing on amendment of Administrative Regulations for the Abatement of Air Pollution, in order to govern the control of organic compounds. Copies of the regulations are available from Air Compliance, Room 188, address on masthead. JUDICIARY ROOM, STATE CAPITOL, HARTFORD.



*A bouquet to
Helen Savoca -
through whose typewriter
the Bulletin comes to you.*

planning for land use

Nov. 26 - 9:30 - 4:30 p.m. Options for Tomorrow - Planning for Land Use. The whys and hows of land use issues and techniques in a day-long conference co-sponsored by the Natural Resources Council of Connecticut, the Department of Environmental Protection, and twenty-six other organizations.

EPA Administrator Russell Train will keynote, discussing the federal perspective on land use; DEP Commissioner Costle will focus on the state perspective; Dr. Hugo Thomas on the natural resource base which must be considered in development; Dr. Carl Madden, Chief Economist for the U.S. Chamber of Commerce, on the economic considerations; C. Victor Brown on the human and local issues in development; Dallas Miner of the Urban Land Institute on tools to manage development growth.

Afternoon - an auction workshop on upcoming programs and issues of critical concern; Dr. Richard Dowd on siting of large scale facilities; Robert Josephy on preservation of agricultural lands; Russell Brennenman on water company lands.

The day is designed to give participants tools, ideas and action programs for good development and land use planning.

Registration \$5.50; \$6.50 at door. Reservations to Natural Resources Council of Connecticut, P.O. Box 352, West Haven 06516. For further information call Natural Resources Council at 354-5004; or DEP (Elizabeth Jester) at 566-2110. RESTLAND FARMS, NORTHFORD

DEPARTMENT OF ENVIRONMENTAL PROTECTION STATE OFFICE BUILDING HARTFORD, CT. 06115

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